

**2013-1347**

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**United States Court of Appeals  
For the Federal Circuit**

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**BOSE CORPORATION**

Plaintiff-Appellant,

v.

**SDI TECHNOLOGIES, INC. and 3XM CONSULTING, LLC,**

Defendants-Appellees,

and

**IMATION CORPORATION, MEMOREX PRODUCTS, INC.,  
and D.P.I., INC.,**

Defendants-Appellees.

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Appeal from the United States District Court for the District of  
Massachusetts in case no. 09-CV-11439, Judge William G. Young.

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**BRIEF FOR PLAINTIFF-APPELLANT  
BOSE CORPORATION**

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## CERTIFICATE OF INTEREST

Counsel for the Plaintiff-Appellant, Bose Corporation, certifies the following:

1. The full name of every party represented by me is: Bose Corporation.
2. The name of the real party in interest represented by me is:  
Bose Corporation
3. There are no parent corporations or any publicly held companies that own 10% or more of the stock of Bose Corporation.
4. The names of all law firms and the partners or associates that appeared for the party now represented by me in the trial court or are expected to appear in this court are:

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## TABLE OF CONTENTS

CERTIFICATE OF INTEREST .....	i
TABLE OF AUTHORITIES .....	v
GLOSSARY .....	x
STATEMENT OF RELATED CASES.....	xi
STATEMENT OF JURISDICTION .....	xii
STATEMENT OF THE ISSUES .....	1
PRELIMINARY STATEMENT .....	3
STATEMENT OF THE CASE.....	6
STATEMENT OF THE FACTS .....	10
I.    The Invention .....	10
II.   The ‘765 Patent .....	13
III.  Relevant Portions Of The ‘765 Prosecution History .....	17
IV.  The District Court’s Constructions And Summary Judgment Order .....	21
SUMMARY OF THE ARGUMENT .....	25
ARGUMENT .....	28
I.    Standard Of Review .....	28

II.	Because The District Court’s Grant Of Summary Judgment Was Based On Improper Claim Constructions, It Should Be Reversed.....	29
A.	The Recited <i>Interface</i> Should Not Be Construed To Require A D/A Converter .....	29
1.	The Claim Language Supports A Broader Construction Of <i>Interface</i> .....	30
2.	The Specification Supports A Broader Construction Of <i>Interface</i> .....	32
3.	In Prosecution, Bose Did Not Define The <i>Interface</i> As Requiring A D/A Converter .....	36
4.	The District Court’s Construction Is Also Contrary To The Extrinsic Evidence.....	40
5.	Summary Judgment Should Have Been Denied Because Defendants’ Products Each Include An <i>Interface</i> .....	41
B.	The Recited <i>Interface Unit/Device/Module</i> Should Not Have Been Construed To Require A “Singularly Physical”—Discrete—Structure.....	42
1.	Neither The Claims Nor the Specification Limits The <i>Interface</i> Terms To A “Singularly Physical” Structure.....	43
2.	The Language Of Claim 37 Specifically Contemplates That The <i>Interface Module</i> May Be Non-Unitary .....	45
3.	Summary Judgment Should Have Been Denied Because Defendants’ Products Each Include An <i>Interface Unit/Device/Module</i> .....	48

III.	Because The District Court Erred In Its Analysis Of Indirect Infringement, The Court’s Grant Of Summary Judgment As To SDI’s iW1 Product Must Be Reversed .....	50
A.	The District Court Erred In Its Ruling On Intent .....	52
1.	Intent Is A Quintessential Fact Question For The Jury .....	52
2.	The District Court’s Reliance On SDI’s Unverified Interrogatory Response and Dansky’s Testimony Was Improper .....	53
3.	As Properly Viewed On Summary Judgment, Bose’s Evidence Negates SDI’s Alleged Good Faith Belief .....	56
4.	The District Court’s Ruling Was Not Grounded In “Binding Precedents” .....	60
5.	The District Court’s Ruling Improperly Insulates SDI From Future Indirect Infringement .....	63
B.	A Genuine Dispute Of Material Fact Exists Regarding SDI’s Contributory Infringement .....	63
C.	A Genuine Dispute Of Material Fact Exists Regarding SDI’s Induced Infringement .....	66
CONCLUSION .....		69
ADDENDA .....		<i>follows Conclusion</i>

## TABLE OF AUTHORITIES

<b>Cases</b>	<b>Page(s)</b>
<i>Adams Respiratory Therapeutics, Inc. v. Perrigo Co.</i> , 616 F.3d 1283 (Fed. Cir. 2010) .....	28
<i>Advanced Software Design Corp. v. Fiserv, Inc.</i> , 641 F.3d 1368 (Fed. Cir. 2011) .....	68
<i>Akamai Techs., Inc. v. Limelight Networks, Inc.</i> , 692 F.3d 1301 (Fed. Cir. 2012) .....	67
<i>Anderson v. Liberty Lobby, Inc.</i> , 477 U.S. 242 (1986) .....	28
<i>Applied Med. Resources Corp. v. U.S. Surgical Corp.</i> , 435 F.3d 1356 (Fed. Cir. 2006) .....	58
<i>Aro Mfg. Co. v. Convertible Top Replacement Co.</i> , 377 U.S. 476 (1964).....	63
<i>Bd. of Trs. of Bay Med. Ctr. v. Humana Military Healthcare Servs., Inc.</i> , 447 F.3d 1370 (Fed. Cir. 2006) .....	28
<i>Bettcher Indus., Inc. v. Bunzl USA, Inc.</i> , 661 F.3d 629 (Fed. Cir. 2011) .....	52
<i>BorgWarner, Inc. v. Honeywell Int’l, Inc.</i> , 750 F.Supp.2d 596 (W.D.N.C. 2010) .....	55
<i>Broadcom Corp. v. Qualcomm Incorporated</i> , 543 F.3d 683 (Fed. Cir. 2008) .....	52, 67, 68
<i>Calderón-Serra v. Wilmington Trust Co.</i> , 715 F.3d 14 (1st Cir. 2013).....	28

<i>CCS Fitness, Inc. v. Brunswick Corp.</i> , 288 F.3d 1359 (Fed. Cir. 2002) .....	33, 44
<i>Commil USA, LLC v. Cisco Systems, Inc.</i> , No. 2012-1042, 2013 WL 3185535 (Fed. Cir. June 25, 2013) .....	52, 59
<i>Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.</i> , 424 F.3d 1293 (Fed. Cir. 2005) .....	43
<i>Cybor Corp. v. FAS Techs., Inc.</i> , 138 F.3d 1448 (Fed. Cir. 1998) (en banc) .....	28
<i>Douglas Dynamics LLC v. Buyers Prods. Co.</i> , No. 2011-1291, 2013 WL 2158423 (Fed. Cir. May 21, 2013) .....	35, 36
<i>DSU Med. Corp. v. JMS Co., Ltd.</i> , 471 F.3d 1293 (Fed. Cir. 2006) (en banc) .....	67
<i>Dynacore Holdings Corp. v. U.S. Philips Corp.</i> , 363 F.3d 1263 (Fed. Cir. 2004) .....	50
<i>Exxon Chemical Patents, Inc. v. Lubrizol Corp.</i> , 64 F.3d 1553 (Fed. Cir. 1995) .....	28
<i>Fuji Photo Film Co. v. Jazz Photo Corp.</i> , 394 F.3d 1368 (Fed. Cir. 2005) .....	52
<i>Fujitsu Ltd. v. Netgear Inc.</i> , 620 F.3d 1321 (Fed. Cir. 2010) .....	63, 66
<i>Garside v. Osco Drug, Inc.</i> , 895 F.2d 46 (1st Cir. 1990) .....	53, 54
<i>Global-Tech Appliances, Inc. v. SEB S.A.</i> , 131 S.Ct. 2060 (2011) .....	66
<i>Goguen v. Textron, Inc.</i> , 234 F.R.D. 13 (D. Mass. 2006) .....	54

<i>Golden Blount, Inc. v. Robert H. Peterson Co.</i> , 438 F.3d 1354 (Fed. Cir. 2006) .....	58, 61
<i>Harris Corp. v. Ericsson Inc.</i> , 417 F.3d 1241 (Fed. Cir. 2005) .....	57
<i>Hockerson-Halberstadt, Inc. v. JSP Footwear, Inc.</i> , 104 Fed.Appx. 721 (Fed. Cir. 2004).....	60
<i>Holmes Group, Inc. v. RPS Prods., Inc.</i> , No. 03-40146, 2010 WL 7867756 (D. Mass. June 25, 2010).....	55
<i>i4i Ltd. Partnership v. Microsoft Corp.</i> , 598 F.3d 831 (Fed. Cir. 2010), <i>aff'd</i> , ___ U.S. ___, 131 S.Ct. 2238 (2011).....	65, 66
<i>In re Rezulin Prods. Liab. Litig.</i> , 309 F.Supp.2d 531 (S.D.N.Y. 2004) .....	56
<i>In re Rosuvastatin Calcium Patent Litig.</i> , No. 07-805-JJF-LPS, 2009 WL 4800702 (D. Del. Dec. 11, 2009) .....	56
<i>Katz Interactive Call Processing Litig. v. Am. Airlines, Inc.</i> , 639 F.3d 1303 (Fed. Cir. 2011) .....	33
<i>Manville Sales Corp. v. Paramount Sys., Inc.</i> , 917 F.2d 544 (Fed. Cir. 1990) .....	60, 61
<i>Mentor H/S, Inc. v. Med. Device Alliance, Inc.</i> , 244 F.3d 1365 (Fed. Cir. 2001) .....	59
<i>Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.</i> , 125 S.Ct. 2764 (2005).....	64
<i>Oatey Co. v. IPS Corp.</i> , 514 F.3d 1271 (Fed. Cir. 2008) .....	34

<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (en banc) .....	30, 37, 40, 47
<i>Powell v. Home Depot U.S.A., Inc.</i> , 663 F.3d 1221 (Fed. Cir. 2011) .....	49
<i>PSN Illinois, LLC v. Ivoclar Vivadent, Inc.</i> , 525 F.3d 1159 (Fed. Cir. 2008) .....	37
<i>Proctor &amp; Gamble Co. v. Kraft Foods Global, Inc.</i> , 549 F.3d 842 (Fed. Cir. 2008) .....	40
<i>Reeves v. Sanderson Plumbing Products, Inc.</i> , 530 U.S. 133 (2000) .....	59
<i>Ricoh Co., Ltd. v. Quanta Computer, Inc.</i> , 550 F.3d 1325 (Fed. Cir. 2008) .....	64
<i>Spancion, Inc. v. Int’l Trade Comm’n</i> , 629 F.3d 1331 (Fed. Cir. 2010) .....	64
<i>Textron Innovations Inc. v. Am. Eurocopter Corp.</i> , 498 Fed.Appx. 23 (Fed. Cir. 2012) .....	44
<i>Thorner v. Sony Computer Entm’t Am. LLC</i> , 669 F.3d 1362 (Fed. Cir. 2012) .....	29, 33, 44, 45
<i>Toshiba Corp. v. Imation Corp.</i> , 681 F.3d 1358 (Fed. Cir. 2012) .....	32, 33, 45
<i>Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.</i> , 473 F.3d 1173 (Fed. Cir. 2006) .....	39
<i>Vitronics Corp. v. Conceptronic, Inc.</i> , 90 F.3d 1576 (Fed. Cir. 1996) .....	34
<i>Young v. Lumenis, Inc.</i> , No. 2:03-cv-655, 2006 U.S. Dist. LEXIS 13585 (S.D. Ohio Mar. 28, 2006) .....	62

## **Rules**

Fed.R.Civ.P. 56 ..... 28, 54

Manual of Patent Examining Procedure § 608.5 ..... 16

## **Other**

Fed.R.Civ.P. 56 advisory committee notes  
(1963 Amendment) ..... 53

**GLOSSARY**

<b>Term</b>	<b>Definition</b>
'765 patent	U.S. Patent No. 7,277,765, the patent-in-suit, titled "Interactive Sound Reproducing." (A98-140.)
Common Products	Defendants' docking products that include a 30-pin connector for coupling an iPod®, iPhone®, or iPad®. There are 143 Common Products.
D/A converter	Circuitry that converts a digital signal to analog form, a digital-to-analog converter.
iDevice	An Apple iPod®, iPhone® or iPad®.
Markman Decision	The district court's Memorandum of Decision Concerning Patent Claim Construction dated December 12, 2011. (A75-97.)
Summary Judgment Order	The district court's Memorandum and Order dated July 10, 2012, granting summary judgment of noninfringement. (A45-74.)
'765 reexamination proceeding	The pending '765 patent <i>inter partes</i> reexamination proceeding (Reexamination Control No. 95/001,260).

All emphasis is supplied, unless otherwise indicated.

## STATEMENT OF RELATED CASES

In accordance with Federal Circuit Rule 47.5:

(a) On October 12, 2011, during the district court case, Defendant SDI Technologies, Inc. filed a *Petition for Writ of Mandamus*, requesting that this Court direct the district court to stay this patent case pending the outcome of an ongoing *inter-partes* reexamination of the patent-in-suit. That petition, *In re SDI Technologies*, Misc. No. 105, before Circuit Judges Newman, Linn, and Reyna, was denied via a nonprecedential order on January 12, 2012.

(b) There are no other cases known to counsel to be pending in this or any other court that will directly affect or be directly affected by this Court's decision in this appeal.

## **STATEMENT OF JURISDICTION**

The district court had subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a). The court entered an amended final judgment on March 27, 2013. Bose timely filed a Notice of Appeal pursuant to Fed.R.App.P. 4(a)(1) on April 17, 2013. This Court has exclusive jurisdiction under 28 U.S.C. § 1295.<sup>1</sup>

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<sup>1</sup> The following Addenda are attached to this Brief:

- A – the patent-in-suit, U.S. Pat. No. 7,277,765 (A98-140);
- B – the district court’s Amended Final Judgment (A40);
- C – the court’s Summary Judgment Order (A45-74); and
- D – the court’s Markman Decision (A75-97).

## STATEMENT OF THE ISSUES

1. Whether the district court erred in construing the claim term *interface* by requiring that the *interface* must include a digital-to-analog (D/A) converter, a construction that is contrary to the breadth of the claim language, reads the embodiment of Figure 2 into the claim, and is contrary to the intrinsic evidence.
2. Whether the district court abused its discretion by denying Bose's motion for reconsideration as to the construction of *interface*, where Bose sought to eliminate the requirement of a D/A converter from the court's definition.
3. Whether the district court erred in construing the claim terms *interface unit*, *interface device*, and *interface module* by limiting these terms to a "structure" that is "something singularly physical," a construction that is contrary to the breadth of the claim language, also reads the embodiment of Figure 2 into the claim, and is contrary to the intrinsic evidence.
4. Whether the district court erred in granting summary judgment of noninfringement as to 143 of the 144 accused products because none contain a D/A converter.

5. Whether the district court erred in granting summary judgment as to SDI's iW1 product (the 144th accused product), because "no reasonable jury could conclude that SDI had the requisite intent" to support a finding of induced or contributory infringement.

## PRELIMINARY STATEMENT

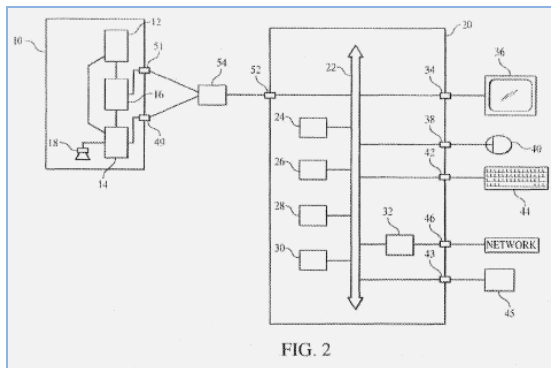
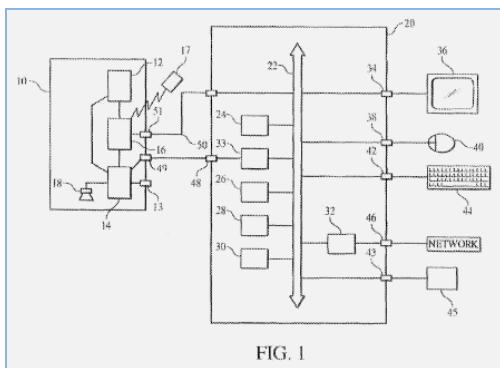
The patent in this case is directed to an audio system for playing music on a computer through an external speaker system. The system allows users to search for their music in a highly organized way, and users can control what is played using the remote control for the speaker system. Users can conveniently access their digital music library and hear their music at the touch of a button. Bose initially implemented the invention in its Wave/PC® system, where the computer was a home PC (below, left), and later through its phenomenally successful SoundDock® line of products, where the computer is a portable device like an iPod® or iPhone® (below, right):



The Wave/PC couples to a PC through a cable, while the SoundDock couples to the iPod directly through a docking connector. In both, the system's interface receives music from the PC/iPod that can be played through the

speakers, and transmits control signals received from the remote control to the PC/iPod. In both systems, the PC/iPod converts the digital music to analog form before sending it to the speakers.<sup>2</sup>

The opening figures of the '765 patent show two ways remote-controlled speaker system 10 couples with the computer 20. Figure 1 shows connectors (48, 49, 50 and 51) that connect the computer's internal sound card 33 and data bus 22 to the system 10, and Figure 2 shows a stand-alone interface unit 54 that couples only to data bus 22. In Figure 1, the sound card 33 converts the computer's digital music into analog form and in Figure 2, the interface unit has circuitry which does this.



The main claim construction issues in this appeal are: (1) whether the digital-to-analog converter that is normally on sound card 33 or stand-alone interface unit 54 **must** be part of the speaker system 10 (as Defendants argued

<sup>2</sup> In the PC, there is a digital-to-analog converter on the sound card. iPods and other iDevices have sound chips that have a converter.

and the district court effectively held with its construction of *interface*), or can the system's interface instead simply include circuitry for receiving the music and transmitting control signals (as Bose argued); and (2) whether the term *interface module*, which one claim emphasizes as only needing to be "at least ***partially*** integrated within" the enclosure for the speakers, must nonetheless be a single, discrete structure (which Defendants argued and the district court held), or can the *interface module* instead have components both within and separate from the speaker system. Bose submits that in both instances, the district court abandoned the broad language of the claims and read the Figure 2 embodiment into the claims without legitimate basis. Separately, Bose submits that the court improperly resolved a factually-intensive intent issue relating to indirect infringement against Bose on summary judgment (this applies to one device that undeniably met even the district court's unduly narrow *interface* constructions).

## STATEMENT OF THE CASE

This appeal involves Bose's '765 patent (A98-140), which relates to an interactive audio system.

Bose is a world-renowned leader in professional and consumer audio products. Bose contends that its SoundDock® products, when coupled to an iDevice such as an iPod® or iPhone®, are covered by the claims in the '765 patent. The Defendants market and sell competing products having a similar configuration (the "Common Products"). Under the district court's claim constructions, no claim covers the SoundDock products or Defendants' Common Products.

Bose filed its infringement suit on August 28, 2009. (A550-56.) Because each claim of the '765 patent includes the audio source device (*e.g.*, an iDevice) as an element, Bose's infringement case was based on induced and contributory infringement.

On December 4, 2009, Defendants Imation and DPI filed a request for *inter partes* reexamination of the '765 patent, and the district court initially stayed the case after the USPTO granted the request.<sup>3</sup> (A15, entry 02/01/2010.) After the case was reassigned to a different judge, the court lifted the stay but

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<sup>3</sup> The '765 reexamination proceeding is still pending. All claims presently stand rejected.

permitted the Defendants to file an early summary judgment motion. (A20, entry 03/17/2011.) Defendants' motion, directed to invalidity for obviousness, was denied on July 5, 2011. (A2761-62.)

On November 14, 2011, the district court held a Markman hearing. (A3706-22.) The parties' main dispute concerned the term *interface*, which appears in one form or another in each independent claim. The court adopted Defendants' proposed construction, construing *interface* to mean "circuitry that converts a digital audio signal from an audio source to an analog audio signal and transmits digital control commands." (A3710(tr.13:2-20).) The court also construed the related terms *interface unit/device/module* to mean "a structure that includes the interface." But the court rejected Defendants' argument that the structure had to "discrete." (*Id.*) These constructions were confirmed in its Markman Decision of December 12, 2012. (A75-97 at A79-87.)

Following the hearing, Bose revised its infringement theories based on the district court's rulings. (*See* A4781; A4801-899 (Kaliski Rpt.).) Bose asserted that Defendants' Common Products (143 of the 144 accused products), when combined with an iDevice, literally infringed claims 35 and 37-42. (*Id.* at ¶¶ 154, 286, 347.) Bose also asserted that SDI's iW1 product, when combined

with an iDevice, literally infringed claim 1 and certain other claims. (*Id.* at ¶ 154.)

Based on the district court’s statement at the Markman hearing that it may continue to construe the claims, including in connection with summary judgment (A3711(tr.17:4-18:23)), Bose filed a motion for reconsideration, contending that the recited *interface* need not include a D/A converter. (A4600; A4603-13.) That motion was denied on January 20, 2012. (A34, entry 01/20/2012.)

On January 10, 2012, Defendants filed a motion for summary judgment of noninfringement, asserting that none of the Common Products includes a “structure that includes an interface.” (A4059; A4062-65.) Bose opposed the motion based on the court’s construction of *interface unit/module/device* in its Markman Decision, and the fact that the court had rejected Defendants’ argument that such structure had to be “discrete.” (A6350; A6355-62.)

On July 10, 2012, the court issued its Summary Judgment Order granting the motion. (A45-74.) With respect to the terms *interface unit/device/module*, the court revised its construction, ruling that those claims required “something singularly physical.” (A54.) As to the 143 Common Products, the court held that these did not infringe because none of these products themselves includes a

D/A converter and therefore does not have a structure that is “something singularly physical” that includes an *interface*. (A64.) As to the iW1 product, which does include a D/A converter, the court granted summary judgment on the ground that no reasonable jury could find the intent necessary to show SDI was liable for induced or contributory infringement. (A65-73.)

On March 27, 2013, the district court entered an Amended Final Judgment. (A40.) On April 17, 2013, Bose filed this appeal.

## STATEMENT OF THE FACTS

### I. The Invention

The invention of the '765 patent stems from an early Bose multimedia product called the Wave/PC®. (A5856-90 at A5870-85; A2428-52; A3112-79.)

The Wave/PC was a modified version of the Bose Wave® radio, and was designed to couple to and control certain functions of a personal computer. (*Id.*)

It was designed so that users, at the touch of a button, could play music on the Wave/PC from multiple sources, including from music files stored on their computer. (*Id.*)

The Wave/PC came with proprietary music and source selection software, which relied on metadata<sup>4</sup> embedded in the music files to help users search through music files stored on their computer in a highly organized way.

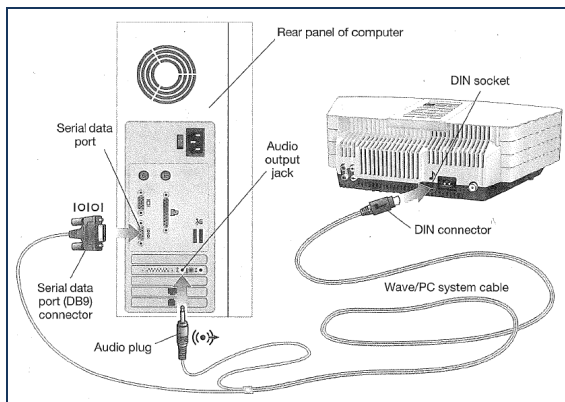
(A5859-76; A3142-44; A209-14.) The system also came with a remote control that could control functions of the Wave/PC, like speaker volume, and also functions of the computer. (A5871; A3130-31.) For example, the remote control could cause the music files on the computer to play, pause, or skip to the next track. (*Id.*) Bose developed and integrated electronics into the Wave/PC for receiving and processing the remote control signals. (A5873-74; A6221-34

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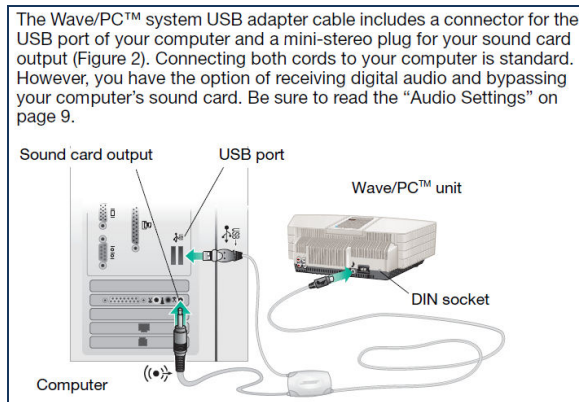
<sup>4</sup> Examples of metadata are a song's genre, artist, album, and track title. (A5870; A4791-93.)

at A6228.) Commands intended for the computer were first received by the Wave/PC then transmitted to the computer. (*Id.*) Putting the control intelligence with the speakers, instead of with the smart device—the computer—was counter-intuitive. (A5867.) The Wave/PC allowed users to control their computers via intelligence in their speakers. (*Id.*)

To facilitate the remote control functionality and audio functions, the Wave/PC “use[d] serial communications and analog audio to interface to the host computer.” (A2439; *see also* A2003-09 at A2006-08.) This was implemented using two different configurations, each shown below.



(A3123.)



(A3468.)

In both configurations, Bose used a multi-pin “DIN” connector on the Wave/PC for transmitting digital control signals to the computer and receiving analog audio from the computer. (A2439.)

In the configuration shown on the left, the cable was split so that it could connect to both the computer's serial data port and to the analog audio output of the computer's sound card. (*Id.*) Because the audio was already in analog form—a form that could be used with the Wave/PC directly—there was no need to convert the signal into analog form.

Because sound cards were known to be noisy, Bose subsequently designed a USB adapter cable, shown on the right, that allowed users to bypass the sound card entirely and, instead, used the USB port of the computer for bi-directional transfer of both control signals and audio. (A2439; A3464-75; A6236-43.) Because USB transmits data in digital form, Bose developed an inline “USB dongle” to convert the signals transmitted between the devices into the proper form for the receiving device (*e.g.*, the Wave/PC needed to receive audio in analog form). (A6239-40; A2439.) Consequently the USB dongle contained a D/A converter for converting the digital audio sent from the computer to analog form for the Wave/PC, along with other circuitry for converting the exchanged data into the proper format. *Id.*

The Wave/PC had only modest sales, but Bose's successor product, the SoundDock, was a hit almost overnight when it launched in 2004. (A1636-42.) The SoundDock couples to a pocket-sized computer via a 30-pin dock that

facilitates transfer of audio and control signals between the mated products. (*Id.*; *see also* A4897-98.) The computer, *i.e.*, an iPod or iPhone (an iDevice), includes the same music sorting capabilities as the Wave/PC, and like the Wave/PC, the SoundDock's remote control can control functions of both the SoundDock speakers and, by transmitting signals via the dock, the iDevice as well. (*Id.*)

## **II. The '765 Patent**

The specification of the '765 patent describes two embodiments which correspond to the two configurations of the Wave/PC described above. (A5870.)<sup>5</sup> The specification also describes various operating modes and functionalities of the audio system, including the functionality for searching and selecting stored music files for playback and the ability of the remote control to control functions of both the sound reproduction device and the mated computer. (A136-37(col.7:13-col.9:7); A137(col.9:62-10:64).)

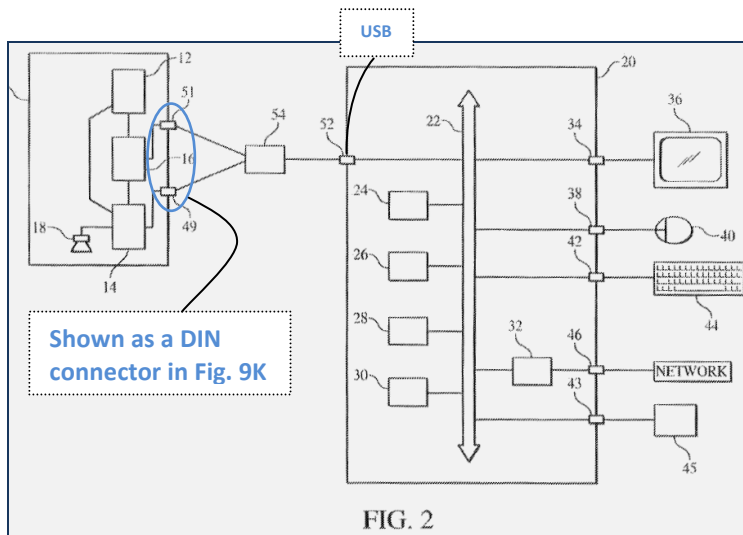
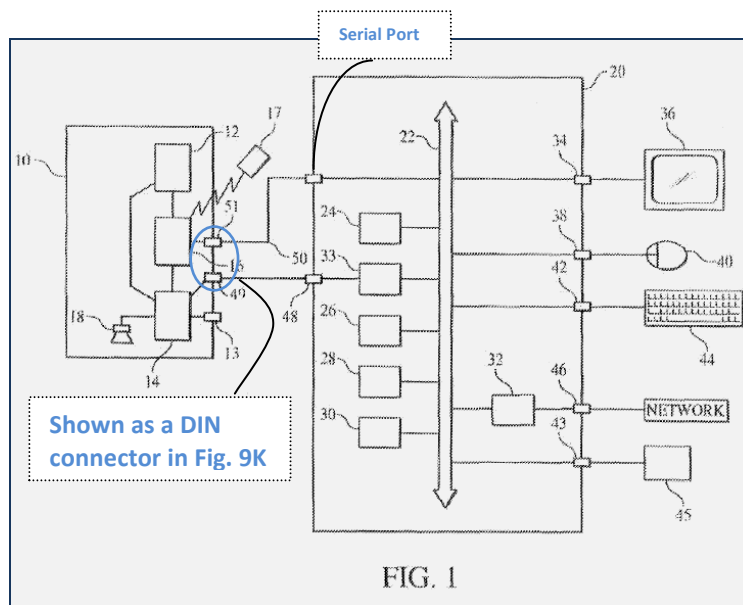
Figures 1 and 2, reproduced below with annotations added, show two exemplary ways that sound reproduction device 10 of an audio system can be mated with computer system 20. In both figures, sound reproduction device 10

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<sup>5</sup> The specification also includes schematics of the Wave/PC electronics (A151-54 and A322-25 (Figures 9A-9D)), and the electronics in the USB dongle (A155 and A326 (Figure 10)).

is configured the same. The Wave/PC cable utilizing the serial port and sound card output of the computer is an implementation of Figure 1, and the Wave/PC USB adapter cable with the USB dongle is an implementation of Figure 2.

(A5872-74.)



For Figure 1, the connections between the devices are described as follows:

Stereo jack 48 [of the sound reproduction device] connects sound card 33 [of the computer] to radio audio signal processing circuitry 14 through analog input terminal 49. Audio system control connector 50 connects bus 22 to control electronics circuitry 16 through digital input terminal 51.

(A134(col.3:59-63).) Although not identified as such in the patent, the system in Figure 1 has an interface for operatively coupling the sound reproduction device to the computer. The interface can be viewed as terminals 49 and 51 (the DIN connector) along with the processor circuitry in the sound reproduction device, the combination of which facilitates the exchange of digital control signals and audio between the devices. (*See* A134(col.3:32-63; A3107-10).)

For Figure 2, the USB dongle, which is called an “interface unit,” is described as follows:

The elements of FIG. 2 are the same as the elements of FIG. 1, with some exceptions. Sound card 33 of FIG. 1 is not needed in this configuration. Stereo jack 48 and the audio system control connector 50 of FIG. 1 are replaced by a bus interface connector 52 [USB], which connects to an interface unit 54 [dongle]. The interface unit 54 connects to audio signal processing circuitry 14 through analog terminal 49 and to control electronics circuitry 16 through digital terminal 51.

(A134(col.3:66-col.4:7).) Figure 3 shows the interface unit 54 in more detail.

The specification describes that the interface unit has circuitry for transmitting

audio between the devices, namely a D/A converter 60 as well as an analog-to-digital (A/D) converter 70, and also has logic circuitry 58 used for both transmitting and receiving the audio and control signals between the devices. (A134(col.4:15-53).) The specification also states that typically the interface unit may be implemented in three ways: as part of the computer, as a standalone unit, or as part of the sound reproduction device. (A134-35(col.4:54-col.5:16).)

A CD-ROM was filed with the application that forms part of the intrinsic record.<sup>6</sup> (A138(col.11:51-53); A200-228 (partial contents of CD).) The CD-ROM, *inter alia*, describes the product's cable setup using the serial data port and sound card output of the mated computer (*id.*), *i.e.*, the configuration shown in Figure 1. (A3123.)

Elsewhere, the specification uses the word “interface” in referring to: the “bus interface connector 52” in Figure 2 that is part of the computer 20 (A134(col.4:3)); “an interface screen on a computer display” shown in Figure 6 (A134(col.3:18-19); A136(col.8:41-55)); and “a network interface card” that is part of the hardware for computer 20 (A134(col.3:48)). These references are all consistent with the well understood purpose of an interface in electronics as

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<sup>6</sup> A CD-ROM filed with an application is “to be treated as part of the originally filed disclosure even if the requisite ‘incorporation by reference’ statement ... is omitted.” MPEP §608.5.

facilitating the transfer of information between objects or environments. (*See* A3091-92; A3097-98; A3101-06.)

### **III. Relevant Portions Of The ‘765 Prosecution History**

There is also nothing in the prosecution history that even suggests that the *interface* requires a D/A converter. The claims were amended to avoid the cited art and distinguished based on the added remote control limitation. Other limitations were added to support the functionality expressed for that limitation, including the *interface* terms. The *interface* terms, *e.g.*, were added to provide a path to the audio source device for the remote control’s signals.

Bose filed the application for the ‘765 patent with 43 claims. (A141-99 at A184-98.) Claim 1 recited an audio system with a sound reproduction device and “a connector for connecting said sound reproduction device with a computer, said computer for providing audio signals from a plurality of sources.” (A184.) Claim 2 depended from claim 1 and recited an *interface device*: “An audio system in accordance with claim 1, and further comprising, an interface device for connecting said computer and said connector, said interface device comprising a digital to analog converter.” (*Id.*) Claim 1 was based on the configuration depicted in Figure 1, and claim 2 was based on the interface unit depicted in Figures 2 and 3. Via the additional limitation in claim

2, requiring that the *interface device* comprise a D/A converter, Bose did not *define* the term *interface* in some limited way. That claim clearly indicates that the *interface device* itself need not include such circuitry.

Following a restriction requirement, Bose cancelled all the pending claims and added new claims 80-104. (A252-60 (Amendment B).) Generally speaking, the new claims related to the music sorting capabilities of the invention. Other than reference to a “user interface,” none recited an interface of any kind. (*Id.*)<sup>7</sup>

The *interface* terms were added to the claims in connection with a response to rejections based on Contois (A1780-98 (U.S. No. 5,864,868) and Katz (A1799-1814 (U.S. No. 6,356,971)). (A261-71.) Katz discloses a computer system having a user interface for managing stored music, video, and other data. (A1807(col.2:37-3:51).) Contois discloses a computer system having a user interface for controlling a coupled media playing device, like a player piano. (A1780(Abstract); A1791(col.4:37-42).) Neither Contois nor

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<sup>7</sup> System claim 94, however, recited “a computer configured *to interface* with the sound reproduction device and a network.” (A256-57.) Because its dependent claim 98 required the sound reproduction device to include a D/A converter (“circuitry for converting a music file to audible sound,” *see* A3514-17), the computer recited in claim 94 need not have included such circuitry in order “to interface” with the sound reproduction device.

Katz discloses or suggests using a remote control to control their computer system.

In response to the rejections, Bose amended claim 80, which became issued claim 1, as follows:

80. (currently amended) An audio reproduction system comprising:
- (i) an audio source device comprising:  
a storage device configured to store ~~containing~~ a plurality of music files, ...; and  
a display ~~device~~ for displaying a user interface configured to present ...;
  - (ii) an enclosure comprising:  
a powered speaker;  
an interface configured to operably couple the audio source device with the powered speaker; and  
control circuitry for receiving control signals; and
  - (iii) a remote control configured to produce at least a first control signal that controls an operation of the audio source device, wherein the first control signal is received by the control circuitry and transmitted to the audio source device via the interface.

(A272-87 at A274.) Bose similarly amended independent claim 94, which became issued claim 25, and added new claims 105-125, which also contained similar limitations. (A276-82.) In its remarks, Bose argued that amended claim 80 was patentable over Contois *based on the added remote control functionality*:

In contrast to claim 80, Contois does not describe or suggest operably coupling an audio source device (*e.g.*, a personal computer, personal music player, etc.) with a separate enclosure

that includes a powered speaker and control circuitry for receiving control signals that are used to control the audio source device. In fact, Contois does not disclose any remote control for his system, much less a remote control that controls one device (*e.g.*, an audio source device) through another device (*e.g.*, an enclosure that includes a powered speaker). Accordingly, Applicant respectfully submits that independent claim 80, along with its dependent claims, are patentable over Contois and the other art of record.

(A284(emphasis in original).) Bose similarly argued that amended claim 94 was patentable over Contois and Katz for the same reason, as were the added claims.

(A286-87; *see also* A288-89; A290-301 at A296.)<sup>8</sup>

While Bose added the *interface* terms via the amendments, Bose did not distinguish Contois on the basis that it lacked an interface or lacked an interface containing a D/A converter. The *interface* terms were added to operatively couple the added *audio source device* to a speaker in the claimed invention and to provide a path for transmitting signals corresponding to remote control commands to the added *audio source device*. Contois clearly discloses an interface for operatively coupling the computer system with the player piano. (*See* A1793(col.8:36-50) describing “drivers 40, which couple control microprocessor 30 to gating logic 42” that activates a switch for energizing the solenoid used to actuate a player piano key.) This aspect of Contois was never

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<sup>8</sup> Prosecution claims 122 and 124 became issued claims 35 and 37, respectively.

discussed, and there is nothing in the record remotely suggesting that Bose, via its amendments, required the interface to include a D/A converter.

The Examiner also understood that the *interface* need not include a D/A converter. In the same action in which he allowed amended claim 80 and related claims, the Examiner also cited to Kataoka (A1815-46(U.S. No. 6,959,221).) (A290-95.) Kataoka discloses a portable viewing/listening system where a portable device through its connection interface 201 receives video, audio and other information, all in digital form, from a main device, and a separate decoder 204 converts the program data into analog video/audio signals for display. (A1833(col.1:5-11; A1839(col.13:20-47); A1816.) The Examiner stated that connection interface 201 in Kataoka corresponded to the *interface device* recited in system claims 117-121. (A293.) Because the Examiner only referred to Kataoka's connection interface, which does not include a D/A converter, the Examiner understood that the recited *interface device* need not include such a converter.

#### **IV. The District Court's Constructions And Summary Judgment Order**

The district court's ultimate constructions for *interface* and *interface unit/device/module* correspond to constructions Defendants proposed. All claims of the patent require one of these terms. In view of the court's narrow

constructions, none of the claims in the '765 patent encompasses the Figure 1 embodiment or covers the Bose SoundDock products.

In claim construction briefing, Bose contended that *interface* should be construed broadly—"a connection"—based on the intrinsic evidence and supporting declarations from lead inventor Paul Beckmann. (A2987; A3003-07; A3494-3503; A3578-85; A3107-09; A3514-17.) Although that construction encompasses the configurations in both Figures 1 and 2 and is consistent with the intrinsic record, the court rejected it as too simplistic. (A80-86.) But the court's construction is too narrow, drawn specifically to the interface unit in Figure 2, which, as shown in Figure 3, has a D/A converter. (A3004-06; A3498-3503; A3578-85; A4605-13.) By requiring the *interface* to include a D/A converter and the *interface unit/module/device* to be "something singularly physical," the court's constructions exclude the Figure 1 embodiment because the sound reproduction device there does not have a D/A converter—the audio signal it receives from the computer is already in analog form, so no converter is needed. (A134(col.3:32-63.) Under the court's constructions, an audio system that operatively couples to an audio source but receives the audio in analog form would not include an *interface*.

In briefing, both sides agreed the terms *interface unit*, *interface module*, and *interface device* should all have the same meaning; these terms are used in the claims in a similar manner. (A3660-61.) Bose contended that the terms should also mean “a connection,” although prior to the Markman hearing Bose proposed the parties agree to construe these terms as “a structure that includes an interface.” (A3723-24.) Bose pointed out that the added word “discrete” in Defendants’ proposal is specifically at odds with claim 37, which contemplates that the recited *interface module* may be part of multiple components and so may be a **non**-discrete structure. (A3007.) At the Markman hearing, the court rejected Defendants’ added word “discrete.” (A3710(tr.13:9-20: “I don’t think I need discrete. ... I think you read too much into it to say discrete.”); *see also* Markman Decision at A86-87). In its Summary Judgment Order, however, the court revised its position and held that the reference to “a structure” in its construction was intended to mean “something singularly physical,” *i.e.*, something discrete. (A54.) On that basis, the court granted summary judgment of noninfringement as to Defendants’ Common Products. (A64.)<sup>9</sup>

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<sup>9</sup> In briefing, Bose effectively conceded that if the court’s construction required that the Common Products each have a discrete structure that includes an interface, those products would not infringe, because none includes a D/A converter. (A6355-56.)

The one remaining product, SDI's iW1, does include a D/A converter, so the court could not grant summary judgment based on any of the *interface* terms. For this product the court concluded that Bose could not prove the requisite intent for induced or contributory infringement, because SDI had professed a good faith belief of invalidity in an unverified interrogatory response (A4520-26) that was also supposedly affirmed by Bose's damages expert in deposition. (A73.) The interrogatory response referred to an invalidity opinion, which was based on the combination of Frank and Van Der Muelen.<sup>10</sup> These were two of the references that the court had previously ruled were subject to material disputes as to their teachings and the motivation to combine, in denying Defendants' earlier-filed invalidity motion. (A2761-62.) The court did not address Bose's arguments countering SDI's averment of good faith belief (*see, e.g.,* A6373-74; A6500-04), nor even acknowledge Bose's arguments that a reasonable jury could infer intent from the evidence presented. (*See, e.g.,* A6366-72; A6473-74; A6499-504; A4726; A4760-63 (addressing knowledge, material component having no noninfringing uses, and classical evidence showing efforts to aid and abet infringement).)

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<sup>10</sup> Frank (A1173-82 (U.S. No. 6,026,150)) and Van Der Muelen (A1310-21 (U.S. No. 6,563,769))

## SUMMARY OF THE ARGUMENT

The district court's grant of summary judgment as to 143 of the 144 accused products was based on unduly narrow constructions of the terms *interface* and *interface unit/device/module* that exclude one of the preferred embodiments, Figure 1.

The context in which the term *interface* is used in the claims and specification makes clear that it facilitates the exchange of audio and control information. Nothing in the specification or the claims requires the *interface* to include a D/A converter. Figure 1 in fact depicts an interface that does not have a D/A converter. Bose did not otherwise limit the breadth of the term *interface* in prosecution to require a D/A converter. Because the functional requirements of the claims can be met by an *interface* that does not include a D/A converter, the term should not be construed to require such circuitry. For this reason, the district court clearly erred in its original construction, and then abused its discretion in denying Bose's motion for reconsideration.

In addition, nothing in the intrinsic record requires that the terms *interface unit/device/module* must be limited to a "singularly physical" structure. The plain and ordinary meanings of the terms *unit*, *device*, and *module* do not themselves suggest any particular form of the *interface*. While the Figure 2

embodiment depicts an “interface unit” as a unitary structure, the mere depiction of a structural claim feature as unitary does not mean that the claims must be so limited. The specification does not at any point limit the configuration of the interface unit to a “singularly physical” structure. The claims also do not impose any constraint on the physical form, unitary or not, of the *interface*. Indeed, claim 37 expressly contemplates that the *interface module* may be a non-unitary structure, integrated within multiple components in the system. The district court erred by not considering the context in which the *interface module* term is used in this claim. The claim is broad enough to encompass, and the requirements of the claim can be met by, an *interface module* that is a non-unitary structure. The same is true for those claims using the terms *interface unit* and *interface device*.

Under the proper construction of *interface*, all of Defendants’ products include an *interface*. If not construed to require a “singularly physical” structure, all of Defendants’ products would also satisfy the *interface unit/device/module* limitations in the claims. This would be true even if this Court were to uphold the district court’s narrow construction of *interface*. Summary judgment as to all products, therefore, should be reversed.

As to SDI's iW1 product, the district court's grant of summary judgment, which was based on SDI's professed good faith belief of invalidity, was unprecedented and completely unfounded and should also be reversed. The issue of intent is a quintessential fact question for the jury. The court ignored evidence in the record disputing SDI's alleged good faith, which was solely based on an *avermment* in an unverified interrogatory answer. Based on evidence Bose presented, a reasonable jury could conclude that SDI had the requisite intent to support findings of contributory and induced infringement.

Further, the district court's decision effectively insulates SDI from future bad-faith conduct with regard to the iW1. The court found that the patent's validity and the iW1's infringement were both triable issues for the jury. Thus, even if SDI allegedly had a good faith belief of invalidity pre-trial, a reasonable jury could find against SDI on both issues, then SDI could no longer profess good faith based on those issues as an excuse for its infringement from that point forward. By dismissing the case, the court improperly pre-judged that issue. For this further reason, summary judgment of no indirect infringement should be reversed.

## ARGUMENT

### I. Standard Of Review

Claim construction is a question of law reviewed *de novo*. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc).

The district court's grant of summary judgment is reviewed *de novo*. *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1286 (Fed. Cir. 2010). Summary judgment is inappropriate where there is a genuine dispute of material fact. Fed.R.Civ.P. 56(a); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986). A dispute about a material fact is genuine "if the evidence is such that a reasonable jury *could* return a verdict for the nonmoving party." *Id.* at 248. When deciding whether a genuine dispute of material fact exists, a court must draw all justifiable inferences in the nonmovant's favor. *Id.* at 255.

A district court's denial of a motion for reconsideration is reviewed pursuant to regional circuit law, *Bd. of Trs. of Bay Med. Ctr. v. Humana Military Healthcare Servs., Inc.*, 447 F.3d 1370, 1374 (Fed. Cir. 2006), and in the First Circuit such rulings are reviewed for abuse of discretion. *See Calderón-Serra v. Wilmington Trust Co.*, 715 F.3d 14, 20 (1st Cir. 2013). A district court does not have discretion to apply an incorrect claim construction. *See Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555-56 (Fed. Cir. 1995)

(discussing court's obligation to determine proper meaning of the claims, without regard to the parties' arguments).

**II. Because The District Court's Grant Of Summary Judgment Was Based On Improper Claim Constructions, It Should Be Reversed**

**A. The Recited *Interface* Should Not Be Construed To Require A D/A Converter**

The district court's construction of *interface* imports structure from the interface unit shown in Figure 2. Nothing in the intrinsic record, however, requires that the claimed *interface* include a D/A converter like that interface unit, *i.e.*, nothing in the intrinsic record imposes requiring that the *interface* receive a particular form of the audio from the audio source to otherwise operably couple the audio source to speakers in the claimed invention. The plain meaning of claim language ordinarily controls unless the patentee provides a special definition for a claim term or disavows the ordinary scope of a claim term either in the specification or during prosecution. *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1367-68 (Fed. Cir. 2012). Neither exception applies here. The district court erred by construing *interface* to require a D/A converter.

The term *interface* should be construed consistent with the full scope of its plain and ordinary meaning as informed by the relevant intrinsic record. *See*

*id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). The term *interface* should be construed as “circuitry that receives an audio signal from an audio source and transmits digital control commands,” which is essentially the district court’s construction minus the D/A converter. (*See* A4605-13.) In the alternative, the term should be construed as “a connection.” (*See* A3003-06; A3498-3503; A3580-85.)

### **1. The Claim Language Supports A Broader Construction Of *Interface***

The district court’s analysis went awry in several respects. First, the court stated that the meaning of *interface* “is not apparent from the context in which it is used in the claims.” (A80.) Not so. Claim 1 recites “an interface configured to operably couple the audio source device with the powered speaker” and also recites that control signals received by the audio system’s control circuitry are “transmitted to the audio source device via the interface.” (A138(col.11:62-col.12:21.)) The claims that use the related terms *interface unit/device/module* recite similar functional requirements. (A139-40.) As used in the claims, the interface facilitates the exchange of audio and control signals. The claims do not impose any specific form in which the audio must be received from the audio source, and they certainly do not require that the *interface* must **convert** the audio signal from digital to analog form. The context in which a term is

used in the claims can be highly instructive in determining its meaning.

*Phillips*, 415 F.3d at 1314. Here, one skilled in the relevant art would understand that the *interface* facilitates the exchange of information and that the claims do not require converting the information from one form to another.

Other claims in a patent can also substantially guide a term's construction, *id.*, and here claims 24 and 29 are relevant. Claim 24, which depends from claim 1, recites that the audio source device itself must be “configured **to transmit** [] analog representations of the respective music files to the sound reproduction device **via the interface**.” (A139(col.13:28-31).) Consequently, the audio source must include a D/A converter so that it can transmit an analog form of the music files to the speaker in the system via the *interface*, and there is no need for the *interface* to include **another** D/A converter. Claim 24 covers the configuration depicted in Figure 1, where the output of the computer's sound card 33 (which includes a D/A converter) transmits analog audio to the sound device 10 via terminal 49. (A134(col.3:59-61); A3516.) Claim 29, which depends from claim 25, similarly recites that the “music storage device comprises circuitry for converting a music file to audible sound” (A139(col.14:12-14)), *i.e.*, the music storage device includes a D/A converter for putting the music file in analog form, which corresponds to “audible sound.”

(See A3514-16.) Because both dependent claims describe systems where the audio source includes a D/A converter, the *interface* recited in the independent claims need not include such circuitry. See *Phillips*, 415 F.3d at 1314.

## 2. The Specification Supports A Broader Construction Of *Interface*

The district court failed to consider the context in which the *interface* term is used in the claims, and, instead, focused exclusively on the specific circuitry of the interface unit depicted in the Figure 2 embodiment and described in detail with respect to Figure 3. According to the court, the Figure 1 embodiment lacks any interface, and an interface “only appears in the second embodiment.”

(A81.). The district court’s read of the specification is not correct, and the claims are not so limited. The form of the audio—analogue or digital—communicated from the audio source via the *interface* is not a limitation in claim 1 or any of the other independent claims, so the form of the audio should not be used to constrain the breadth of the term *interface*. In other words, the full scope of *interface* as understood by one skilled in the art cannot be displaced by pointing to the interface unit embodiment of Figures 2 and 3, as the district court did. *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1369 (Fed. Cir. 2012) (“Appellees cannot overcome the plain meaning of claim 1 by pointing to an embodiment disclosed in the specification or prosecution history.”).

In *Toshiba*, this Court reversed a summary judgment of noninfringement where the plain meaning of the claim was broad enough to read on both single-sided and multi-sided discs, but the district court erroneously read a “purpose” requirement into the claim from the specification, thereby limiting its scope to multi-sided discs. *Id.* at 1368-69. Here, even if the specification only disclosed a single embodiment, which included an interface having a D/A converter, that would not be reason enough to require that the claimed *interface* include a D/A converter. It is “not enough that the only embodiments, or all of the embodiments, contain a particular limitation.” *Thorner*, 669 F.3d at 1366; *see also CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (A term’s plain meaning is not overcome “simply by pointing to the preferred embodiment or other structures or steps disclosed in the specification or prosecution history.”).

One of the district court’s biggest missteps was its failure to adopt a claim construction for *interface* that encompassed all the disclosed embodiments, including that of Figure 1, which plainly includes an interface.<sup>11</sup> A construction that excludes a preferred embodiment is highly suspect. *Katz Interactive Call Processing Litig. v. Am. Airlines, Inc.*, 639 F.3d 1303, 1324 (Fed. Cir. 2011)

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<sup>11</sup> An implementation of the Figure 1 embodiment was disclosed in the CD-ROM filed with the patent application. (A227-28.)

(“[T]here is a strong presumption against a claim construction that excludes a disclosed embodiment. . . .”); *Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1277 (Fed. Cir. 2008) (“At leas[t] where claims can reasonably [be] interpreted to include a specific embodiment, it is incorrect to construe the claims to exclude that embodiment, absent probative evidence on the contrary.”); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (A construction that excludes a preferred embodiment is “rarely, if ever, correct. . . .”).

The fundamental difference between Figures 1 and 2 is that in Figure 1, the audio output from the computer is in analog form, whereas in Figure 2, it is in digital form. In Figure 1, the claimed operative coupling in the sound device—the claimed *interface*—can be viewed as terminals 49 and 51 (the DIN connector) along with the processor circuitry in the sound reproduction device, the combination of which facilitates the exchange of digital control signals and audio between the devices. (See A134(col.3:32-63.)<sup>12</sup> The *interface* need not include any D/A converter in this instance because the received audio is in analog form already. Because in Figure 2 the transmitted audio is in digital form, that particular embodiment of the *interface* must include a D/A converter

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<sup>12</sup> The specification also supports Bose’s alternate construction, because both figures include a “connection” (*i.e.*, terminals 49 and 51) that provides the operative coupling between the sound reproduction device and the computer. (See A134(col.3:59-67).)

to operatively couple the computer to the speaker in the sound reproduction device.

As the figures illustrate, the *interface* **may** include a D/A converter, but it is not required to have such circuitry. The Figure 1 embodiment does have an *interface*, and one skilled in the art reading the patent would view it as having such even though the word “interface” is only used in describing the interface unit in Figure 2. *See Douglas Dynamics LLC v. Buyers Prods. Co.*, No. 2011-1291, 2013 WL 2158423, at \*2-4 (Fed. Cir. May 21, 2013).

In *Douglas Dynamics*, the district court erroneously read the term “connected to” in the claimed snow plow assembly as requiring that the lift frame and A-frame of the assembly each directly connect to the mounting frame that attaches to the vehicle, which was the configuration described in the specification. *Id.* at \*2-\*3. In the accused products, the A-frame indirectly connected to the mounting frame via the lift frame. *Id.* The district court said that because the specification did not depict the indirect connection used in the accused products and did not explicitly state that the lift frame can be viewed as connecting the A-frame to the mounting frame, that configuration was outside the scope of the claims and granted summary judgment of noninfringement. *Id.* at \*3-\*4. The construction even excluded a preferred embodiment, which

depicted an indirect connection between the lift frame and the mounting frame.

*Id.* In reversing, this Court held that the ordinary meaning of “connected to” encompasses indirect linkages and that nothing in the patent limited the A-frame connection to a “direct” connection. *Id.* This Court also rejected the argument that the relationship of the parts as recited in the claim required the narrow construction, ruling that the functional requirements for the connection “can be met by connecting either the A-frame or the support frame, or both, to the mounting frame. . . .” *Id.* at \*4.

Here, the claimed *interface* as informed by the claim language and the specification encompasses interfaces that have a D/A converter and those that do not. Nothing in the specification or the claims limits the configuration of the *interface* to only those that include a D/A converter. As in *Douglas Dynamics*, because the functional requirements of claim 1 can be met by an interface that does not include such circuitry, the claim should not be so limited.

### **3. In Prosecution, Bose Did Not Define The *Interface* As Requiring A D/A Converter**

The district court also misread the prosecution history. Nothing in the prosecution history remotely suggests that *interface* was “defined” as requiring “a digital to analog converter,” as the district court held. (A83-84.)

First, the court placed undue significance on the fact that original claims 1 and 2 were cancelled, which according to it, would have covered the Figure 1 embodiment. Bose voluntarily cancelled all those claims and presented a **broader** set for substantive examination. (A252-60 (Amendment B)). The Examiner never even passed on the patentability of the original claims.<sup>13</sup> This situation is far different from *PSN Illinois, LLC v. Ivoclar Vivadent, Inc.*, 525 F.3d 1159 (Fed. Cir. 2008), cited by the district court (A84), where the broader claims did not survive reexamination. Even in that case, though, the claim cancellation did not preclude the surviving claim from having a scope that still encompassed the preferred embodiment. *Id.* at 1166.

Second, the district court misread original claim 2 altogether. That claim further limited claim 1 by reciting “an interface device for connecting said computer and said connector, said interface device comprising a digital to analog converter.” (A184.) Properly understood, the D/A converter is an **additional** requirement of the recited *interface device* in that claim. As written the *interface device* itself would not necessarily include a D/A converter. *See Phillips*, 415 F.3d at 1314 (“[T]he claim in this case refers to ‘steel baffles,’

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<sup>13</sup> The original claims were not cancelled because of prior art rejections. The first substantive office action, other than a restriction requirement, came **after** Bose cancelled these claims in favor of the broader set. (A261-71.)

which strongly implies that the term ‘baffles’ does not inherently mean objects made of steel.”). The court, however, read the **additional** limitation—“said interface device comprising a digital to analog converter”—as **defining** the claimed *interface* as something that must include a D/A converter. (A83-85). That is fundamentally an incorrect reading of original claim 2; in fact, it is the exact opposite of the correct reading.

Third, because the court erred in its understanding of claim 2, it erred in stating that “Bose incorporated **this** ‘interface’ limitation into amended independent claim 80.” (A83.) Bose did not. By later adding the *interface* limitation to claim 80, which became issued claim 1, Bose did not thereby **add** to that claim or any others the requirement that the *interface* must “comprise[] a digital to analog converter.” *Id.*

In its reply responding to rejections based on Contois and Katz, Bose used the added remote control, and not the *interface* limitation, as the basis by which it distinguished amended claim 80 from that art. (A284.) The court ignored this part of Bose’s argument, and, instead, focused only on the initial part of the reply that recited the limitations added to the claim. (A83, quoting portion of A282.) The court was led to this error by Defendants’ brief, which cropped Bose’s argument and mischaracterized it as being based on the *interface*

limitations. (*Compare* A3407, A3420-22 with A274, A282-84.) Defendants even cropped from their quote of amended claim 80 the added remote control limitation. (A3421.) Because the court misread original claim 2 as defining *interface* to require a D/A converter, the court erred in concluding that Bose “added and defined the term ‘interface’ in their Office Action Reply.” (A84 (emphasis in original).) While Bose defined functions of the *interface* via the amendment (*e.g.*, operably couple the audio device with the speaker and transmit control commands), it did not add, by mere incorporation of the word “interface” into the claim, a requirement that the claimed *interface* must include a D/A converter.

This is also consistent with the Examiner’s understanding of *interface*. In prosecution, the Examiner identified Kataoka’s connection interface 201, which does not include a D/A converter, as corresponding to the *interface device* limitation. (A293; (A1839(col.13:20-47); A1816.)) The Examiner’s understanding of that term is probative evidence as to its meaning. *See Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1182-83 (Fed. Cir. 2006) (Examiner’s statement in a restriction requirement was probative evidence that the claim term “dispensing” was not limited to the “direct dispensing” embodiment.).

#### **4. The District Court's Construction Is Also Contrary To The Extrinsic Evidence**

Extrinsic evidence is also relevant to claim construction. *Phillips*, 415 F.3d at 1317. Dictionary definitions of the word “interface” (A3097-98; A3101-05); inventor testimony (A3107-09 and A3514-17 (Beckmann)); the ongoing ‘765 reexamination proceeding (A3583-85 and A4610-12 (citing A3594-95; A3599-09 at A3604 (Kaganas discussion)); A3614-3622 at A3619-20 (Frank discussion); A3629-37 (Kaganas, U.S. No. 6,425,0180); A4710-20 at A4719);<sup>14</sup> and even an opinion Imation received (A4621-22; A4645) all support the conclusion that a person skilled in the art would understand that the *interface* need not include a D/A converter.

Defendants in fact in their reexamination have taken the position that the claimed *interface* is any form of connection or operative coupling between two devices, and the reexamination has proceeded on this footing. (See A3583-85; A4610-12.) Opinion counsel for Imation similarly concluded, “we interpret the interface limitation of the enclosure [claim 1] to cover embodiments where the interface is located within the enclosure and where the interface has an external

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<sup>14</sup> See *Proctor & Gamble Co. v. Kraft Foods Global, Inc.*, 549 F.3d 842, 848 (Fed. Cir. 2008) (“The district court should monitor the proceedings before the PTO to ascertain whether its construction of any of the claims has been impacted by further action at the PTO or any subsequent proceedings.”).

interface connector to couple the audio source device with the enclosure and internal connectors to couple the interface with the powered speaker.” (A4645.)

Accordingly, the term *interface* should not be construed to require a D/A converter. Bose’s reconsideration motion (A4605-13) sought to amend the court’s construction by eliminating that requirement. It should not have been denied. (A34, entry 01/20/2012.)

**5. Summary Judgment Should Have Been Denied  
Because Defendants’ Products Each Include An  
*Interface***

All of Defendants’ products would satisfy the *interface* limitation if it were not narrowly construed to require a D/A converter. This would be true regardless whether this Court upholds the district court’s construction of the *interface unit/device/module* terms, discussed below.

Bose’s expert Kaliski in his report described in detail that each of Defendants’ Common Products has processor circuitry that facilitates transmission of digital control signals, and that this circuitry is coupled to a 30-pin dock through which the audio and the control signals are exchanged with the mated iDevice. (A4823-27 (describing functionality of 30-pin dock); A4827-44 at ¶¶190-219 (opining on interface in SDI’s Common Products); A4857-70 at ¶¶314-340 (opining on interface in DPI’s Common Products); A4870-92 at

¶¶375-400 and ¶¶428-453 (opining on interface in Imation’s Common Products).) Similarly Kaliski described in detail that SDI’s iW1 product has functionally similar processor circuitry that is coupled to a USB docking port through which the audio and the control signals are exchanged with the mated iDevice (A4845-57 at ¶¶246-249 and ¶¶260-279 (opining on interface in SDI’s iW1.). These components would constitute an *interface* under Bose’s construction—“circuitry that receives an audio signal from an audio source and transmits digital control commands” (and would also meet Bose’s alternative construction of “a connection”). Consequently each of Defendants’ products would meet the *interface* limitation in claim 1 if not narrowly construed to require a D/A converter. Under the correct construction of *interface*, summary judgment should have been denied as to all products.

**B. The Recited *Interface Unit/Device/Module* Should Not Have Been Construed To Require A “Singularly Physical”—Discrete—Structure**

Bose does not contest the district court’s construction of *interface unit/device/module* as “a structure that includes an interface.” Bose proposed that the parties agree on this construction prior to the Markman hearing. (A3723-24.) Bose does contest, however, that the structure must be a “singularly physical” structure, as the district court eventually ruled. (A54.)

**1. Neither the Claims Nor The Specification Limits The *Interface* Terms To A “Singularly Physical” Structure**

As a threshold matter, the plain and ordinary meanings of the terms *unit*, *device*, and *module* do not themselves connote a “singularly physical” structure. These terms—all generic expressions for an object—do not suggest any particular form for the object.

Nothing in the specification requires that the *interface* be a “singularly physical” structure either. While the specification depicts the interface unit of Figure 2 as a unitary structure and provides three exemplary implementations of the interface unit—as part of the audio source, as a standalone unit, or as part of the sound reproduction device (*see* A134-35(col.4:54-col.5:16))—the specification does not at any point limit the configuration of the interface unit to a “singularly physical” structure. In general, “the mere depiction of a structural claim feature as unitary in an embodiment, without more, does not mandate that the structural limitation be unitary.” *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1309 (Fed. Cir. 2005). In addition, there is nothing in the prosecution history that even bears on whether the particular form of the *interface* must be unitary or not.

Unless the claims, the specification, or the prosecution history *require* that a particular component be a single, one-piece structure, that limitation should not be read into the claim. *Textron Innovations Inc. v. Am. Eurocopter Corp.*, 498 Fed.Appx. 23, 30 (Fed. Cir. 2012) (“Nothing in the claims, the specification, or the prosecution history indicates that the recited strap must be a unitary structure. There is therefore no legal bar to treating the combination of the rubber gasket and the two stop pieces in the accused landing gear assembly as the claimed strap.”); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367-70 (Fed. Cir. 2002) (reversing summary judgment of noninfringement, holding that term “reciprocating member” encompassed a multi-component, curved structure and should not have been limited to a single-component, straight bar member like the preferred embodiment, because nothing in the record required the member to have a certain shape or number of parts).

This Court has repeatedly warned against limiting claims to the preferred embodiments. *See, e.g., Thorner*, 669 F.3d at 1365-67. In *Thorner*, this Court vacated and remanded a stipulated judgment of noninfringement where the district court erred by limiting the meaning of “attached to” on the basis that the embodiments in the specification consistently used the term “attached” to indicate affixing an actuator to the outer surface of an object. *Thorner*, 669 F.3d

at 1365. This Court held that the plain meaning of the term “attached” encompasses either an external or internal attachment and that the term should be construed as such even though the specification repeatedly used the term in reference to embodiments where the actuators are “attached to [an] outer side.” *Id.* at 1367-68. The Court held that the patentee’s use of the word in the specification had not redefined the term to mean only attachment to an external surface and did not constitute disavowal of claim scope. *Id.*; *see also Toshiba*, 681 F.3d at 1369.

Here, even though the specification depicts an interface unit and related implementations as discrete structures, *e.g.*, a circuit board, Bose did not thereby limit the meaning of the *interface unit/device/module* terms to this physical form or disavow any claim scope.

## 2. The Language Of Claim 37 Specifically Contemplates That The *Interface Module* May Be Non-Unitary

Claim 37 recites a *different* configuration of the *interface* than the three exemplary configurations of the interface unit described in the specification. Claim 37 recites an audio system with a sound reproduction device that includes “an interface module *at least partially integrated within* the enclosure” of that device and “an audio source device configured to operably connect to the sound

reproduction device via the interface.” (A140(col.15:1-col.16:5).) By using the phrase “at least partially integrated within,” the claim expressly contemplates that part of the *interface module* may be in another part of the audio system. Based on the claim language, one logical place for the rest of the *interface module* is in the audio source device. Claim 37 thus expressly contemplates that the *interface module* need not be something “singularly physical,” but can be a non-unitary structure.

Contrary to what Defendants argued below, the language in claim 37 simply does not correspond to the third implementation of the interface unit in the specification, “where the interface unit is a ‘module, such as a circuit board’ in the speaker.” (A3453-54.) Claim 37, by its plain language, permits the *interface module* to be integrated within multiple components in the system, a hybrid of the implementations of the interface unit expressly described. (See A134-35(col.4:54-col.5:16).)<sup>15</sup>

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<sup>15</sup> Defendants were also clearly wrong when they tried to overcome claim 37 by arguing that “the patent does not teach an embodiment like that.” (A3454 n.3.) Claim language is not rendered meaningless because it does not correspond to an embodiment described in the patent, and Defendants here cannot overcome the broader language of the claim by pointing to the discrete embodiments of the interface unit in the specification. *See Thorner*, 669 F.3d at 1367-68. In any event, under the district court’s construction of *interface*, the Defendants are wrong since Figure 1 does in fact disclose an *interface module* having a non-unitary structure, because part of the *interface* resides in the sound

The district court erred by not considering the context in which the *interface* term is used in claim 37. *Phillips*, 415 F.3d at 1314 (“To begin with, the context in which a term is used in the asserted claim can be highly instructive.”). That claim is broad enough to encompass, and the requirements of the claim can be met by, an *interface module* that is either a “singularly physical” structure or a non-unitary structure. The same is true for those claims using the terms *interface unit* and *interface device*. Claim 25 recites “an interface unit operably coupled to the sound reproduction device” and a “music storage device configured to removably connect with the sound reproduction device via the interface unit.” (A139(col.13:32-14:3).) Claim 35 has similar limitations. (A139(col.14:33-62).) These claims do not impose any constraint on the physical form, unitary or not, of the *interface*.

Accordingly, the terms *interface unit/device/module* in asserted claims 25, 35, and 37, respectively, should not be construed to require a “singularly physical” or “discrete” structure that includes an *interface*.

*Cont’d*\_\_\_\_\_

device and part in the computer: the circuitry that transmits digital control commands is in the sound reproduction device 10, and the D/A converter is in the computer’s sound card 33. (See A134(col.3:32-63); A3515-16 (“A person having ordinary skill in the art would understand that sound card 33 includes a D/A converter.”); A227-28 (help files on CD showing setup of Wave/PC corresponding to Figure 1 embodiment).)

**3. Summary Judgment Should Have Been Denied  
Because Defendants' Products Each Include An  
*Interface Unit/Device/Module***

Bose's direct infringement case was based on the combination of an accused product with an iDevice. Even if the district court's construction of *interface* is upheld, all of Defendants' Common Products, when combined with an iDevice, would satisfy the *interface unit/device/module* limitations if these terms were not narrowly construed to require a "singularly physical" structure that includes an interface.

At summary judgment Bose presented sufficient evidence through its expert Kaliski showing that each of Defendants' Common Products when combined with an iDevice has a non-unitary structure that includes "circuitry that converts a digital audio signal from an audio source to an analog audio signal and transmits digital control commands." (See A80 (district court construction of *interface*.) Kaliski in his report described in detail that each Common Product/iDevice combination includes: (a) processor circuitry in the Common Product that is used to transmit the digital control signals to the iDevice; (b) a D/A converter in the iDevice that converts the digital audio to analog form; and (c) a 30-pin dock by which the Common Product transmits the digital control signals and receives the analog audio. (A4823-27 (describing

functionality of 30-pin dock); A4827-44 at ¶¶190-219 (opining on interface in SDI’s Common Products); A4857-70 at ¶¶314-340 (opining on interface in DPI’s Common Products); A4870-92 at ¶¶375-400 and ¶¶428-453 (opining on interface in Imation’s Common Products).). Together these components would constitute “a structure that includes an interface” and would correspond to an *interface device* (claim 35) and an *interface module at least partially integrated within the enclosure* (claim 37) if those limitations were not limited to a “singularly physical” structure (and even if the district court’s construction of *interface* was upheld). The components have a logical connection to one another. The 30-pin dock in each Common Product is the common port through which signals from the processor circuitry in the base unit and from the D/A converter in the iDevice are exchanged to operably couple the two devices.<sup>16</sup> Under the correct construction of *interface*, *unit/device/module*, summary judgment should have been denied as to all products.

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<sup>16</sup> Although the iDevice also corresponds to a separate limitation in the claims, *e.g.*, an audio source device, components in accused devices may satisfy multiple claim limitations. *See, e.g., Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1231-32 (Fed. Cir. 2011) (rejecting argument that “cutting box” and “dust collection structure” in claims could only be literally met by a device having separate components corresponding to the elements).

### **III. Because The District Court Erred In Its Analysis Of Indirect Infringement, The Court's Grant of Summary Judgment As To SDI's iW1 Product Must Be Reversed**

With respect to the last product, SDI's iW1, the district court correctly denied Defendants' summary judgment motion as to direct infringement. It erred, however, in ruling that no reasonable jury could find that SDI had the requisite intent to support findings of indirect infringement. Induced and contributory infringement each require a showing of intent in addition to an act of direct infringement. *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1273-74 (Fed. Cir. 2004).

Having ruled against Bose on the 143 Common Products based on the *interface* terms, only the iW1 remained. Because the iW1 has a different configuration than the Common Products—the iW1 does include a D/A converter—the district court ruled that a reasonable jury could find direct infringement based on its narrow constructions of the *interface* terms.<sup>17</sup> To

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<sup>17</sup> In his report, Kaliski detailed how the iW1 and iDevice combination infringes the asserted claims as construed by the court. (A4823-27 (describing functionality of 30-pin dock); A4827-29; A4845-57.) He described in particular the *interface* of the iW1: Unlike the Common Products, the iW1 includes a D/A converter, as it couples to an iDevice via a USB port—a digital connection. (A4854-55.) Defendants' expert also admitted that the iW1 has a D/A converter. (A4996(tr.220:5-7); A5002(tr.226:8-17); A4973-A5002.) Kaliski also opined that the iW1's processor circuitry that facilitates transmission of digital control signals and the USB docking port constitute circuitry for

dispose of that one remaining product, the district court rendered dispositive SDI's professed good faith belief of invalidity. As even the district court here recognized, "[t]he cases are legion which caution against a grant of summary judgment where intent is in play." (A6452(tr.7:20-22).) Yet the court did just that. The "evidence" on which it based its decision—an unverified interrogatory response regarding an opinion that was not even introduced into evidence (A4520-26) and deposition testimony from Bose's damages expert speculating about the bargaining position SDI took in pre-suit negotiations (A4529; A4533-37)—came nowhere near supporting the court's summary judgment decision. That evidence, moreover, was countered by other evidence in the record rebutting SDI's professed good faith belief, which the district court ignored.

Accordingly, the grant of summary judgment with respect to SDI's iW1 product should be reversed.

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transmitting digital control commands. (A4851-56.) The combination of these components—D/A converter, relevant processor circuitry, and USB docking port—satisfy the court's narrow constructions of *interface* and *interface unit/module/device*. (*Id.*)

**A. The District Court Erred In Its Ruling On Intent**

**1. Intent Is A Quintessential Fact Question For The Jury**

This Court has repeatedly cautioned that intent “is a factual determination particularly within the province of the trier of fact. . . .” *Fuji Photo Film Co. v. Jazz Photo Corp.*, 394 F.3d 1368, 1378 (Fed. Cir. 2005) (citation omitted); *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 700 (Fed. Cir. 2008) (citing *Fuji Photo Film*). *See also Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 649 (Fed. Cir. 2011) (holding that opinion was relevant to defendant’s “state of mind and its bearing on indirect infringement,” and stating that “[i]t is within the province of the jury to make credibility determinations regarding the competence of [opinion counsel’s] advice, and the reasonableness of [defendant’s] reliance thereon”).

*Commil USA, LLC. v. Cisco Systems, Inc.*, No. 2012-1042, 2013 WL 3185535, at \*6 (Fed. Cir. June 25, 2013) is the latest case on point. There, this Court held that “evidence of an accused inducer’s good-faith belief of invalidity *may* negate the requisite intent for induced infringement,” but strongly cautioned against the idea “that such evidence precludes [such] a finding. . . .”

Like prior cases, this Court recognized that it is merely evidence that the *fact-finder* should consider in determining intent. *Id.*<sup>18</sup>

The district court clearly overstepped its role here, giving credence to dubious evidence and ignoring other evidence that a reasonable jury could have relied on to support a finding of indirect infringement.

## 2. The District Court's Reliance On SDI's Unverified Interrogatory Response And Dansky's Testimony Was Improper

Generally speaking, evidence must be admissible at trial in order to be considered on summary judgment. *Garside v. Osco Drug, Inc.*, 895 F.2d 46, 49-51 (1st Cir. 1990). At summary judgment, Bose disputed whether SDI's unverified interrogatory response, its *sole* evidence of good faith belief of invalidity, was evidence that could be used to preclude a finding of indirect infringement. (A4755-58, in particular responses to ¶¶108-112; A6503-04.). That interrogatory response was nothing more than an *avermment* of good faith reliance by SDI's litigation counsel who signed the response. It is no different in nature or caliber than an unverified allegation in a pleading. "The very mission of the summary judgment procedure is to pierce the pleadings and to

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<sup>18</sup> The Court also said, "We certainly do not hold 'that if the inducer of infringement believes in good faith that the patent is invalid, there can be no liability for induced infringement.'" *Id.* at \*6, n.1.

assess the proof in order to see whether there is a genuine need for trial.”

Fed.R.Civ.P. 56 advisory committee notes (1963 Amendment).

At summary judgment, SDI did not present any declaration from the opinion author—nothing in support of the author’s qualifications (or even evidence that he was a lawyer), what investigation was conducted, or the bases of the opinion allegedly supporting the conclusion reached. Nor did it submit any declaration from any SDI business person regarding the company’s alleged good faith reliance on the opinion. In fact, the opinion itself was not even submitted.

SDI basically relied on its conclusory interrogatory response, in lieu of presenting any actual evidence under Fed.R.Civ.P. 56(c) that could be assessed.

An unverified interrogatory response concerning proposed testimony is insufficient to support or defeat summary judgment in the First Circuit.

*Garside*, 895 F.2d at 48-50; *Goguen v. Textron, Inc.*, 234 F.R.D. 13, 16-17 (D. Mass. 2006) (relying on *Garside*). Although interrogatory answers “may be given effect so far as they are admissible under the rules of evidence, they should be accorded no probative force where they are not based upon personal knowledge or are otherwise deficient.” *Garside*, 895 F.2d at 49. Because SDI’s

interrogatory response was insufficient to support summary judgment, the district court's reliance on it was improper.

The district court also drew improper inferences from the deposition of Bose's damages expert Dansky. (A72-73.) When read in context, Bose's expert merely speculated about the bargaining position SDI took in pre-suit negotiations with Bose ("they probably believed they weren't going to pay anything ..."—which he called "a disingenuous response"). (A4534(tr.334:11-19); A4533-38.) While Dansky testified he was aware of the opinion (*see* A4536(tr.336:10-15)), he certainly never testified he knew SDI's actual beliefs or intent. Nor would a **damages** expert be expected to opine on SDI's actual beliefs.

The court's reading of the testimony simply went too far. Moreover, giving such credence to this speculative expert testimony as the district court did was improper. *See Holmes Group, Inc. v. RPS Prods., Inc.*, No. 03-40146, 2010 WL 7867756, at \*6 (D. Mass. June 25, 2010) ("An expert witness **may not testify** as to another person's intent. No level of experience or expertise will make an expert witness a mind-reader."); *BorgWarner, Inc. v. Honeywell Int'l, Inc.*, 750 F.Supp.2d 596, 611, (W.D.N.C. 2010) (excluding expert testimony on Honeywell's intent to deceive the Patent Office, intent to induce infringement,

and its alleged recklessness or willfulness); *In re Rosuvastatin Calcium Patent Litig.*, No. 07–805–JJF–LPS, 2009 WL 4800702, at \*8 (D. Del. Dec. 11, 2009) (“Generally, expert witnesses are not permitted to testify regarding ‘intent, motive, or state of mind, or evidence by which such state of mind may be inferred.’”) (citation omitted); *In re Rezulin Prods. Liab. Litig.*, 309 F.Supp.2d 531, 547 (S.D.N.Y. 2004) (“Inferences about the intent or motive of parties or others lie outside the bounds of expert testimony.”).

**3. As Properly Viewed On Summary Judgment, Bose’s Evidence Negates SDI’s Alleged Good Faith Belief**

Based on the record at summary judgment, a reasonable jury could infer that SDI held no good faith belief of invalidity. SDI did not obtain the opinion until months after it knew of the ‘765 patent and Bose’s contentions on infringement. (A4939; A4756 at ¶106.) There is no evidence it took steps in this intervening period to stop selling any accused product. Even after it received the opinion, it still engaged with Bose to license the patent and was willing to do so for a seven-figure sum. (A4535(tr.335:5-13)). After getting the opinion, SDI’s in-house lawyer simply filed it away in a drawer. (A5225; A5236(tr.151:2-9)). SDI’s business executives never bothered to read the opinion (A5233-36(tr.148:2-151:24), and SDI did not submit any testimony on

SDI's alleged reliance. This Court has previously found, in the context of willfulness, that similar evidence—the opinion was simply filed away and the defendant failed to present any actual evidence that even a single business person relied on it—was probative evidence that “little, if any, attention was given to the document.” *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1259 (Fed. Cir. 2005) (upholding jury finding of willfulness).

Further, the district court blindly relied on the bare fact that SDI's invalidity opinion was “based on the combination of” the Frank and Van Der Muelen references. (A59.) This was its only characterization of the opinion, as the court never actually reviewed the opinion and never considered whether it had any merit. (*Id.*, referencing A4756 at ¶107.) The court inferred from the use of these references in the reexamination that the opinion had merit. (A71-72).

That inference, drawn against the non-movant Bose, was improper for at least two reasons. First, as the district court acknowledged, the ‘765 reexamination proceeding is incomplete,<sup>19</sup> and the patent is entitled to a presumption of validity by statute. (A46; A6452-53(tr.7:19-9:14).). Second, the

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<sup>19</sup> Neither SDI nor any Defendant cited any case law standing for the proposition that indirect infringement can be foreclosed as a matter of law by rejections in an incomplete reexamination proceeding.

district court also ignored that it had previously considered these very same references and had *denied* summary judgment of invalidity based on them. The court had ruled that “significant aspects of the scope and content of the prior art, and the motivation to combine” were issues the jury would need to resolve.

(A2761-62 referencing A749; A765-69.)<sup>20</sup>

Viewing the record in the light most favorable to Bose and drawing all reasonable inferences in Bose’s favor, as the district court should have done, a reasonable jury could well have found that the opinion had no merit, and that SDI did not put any stock in the opinion or the reexamination. *See Applied Med. Resources Corp. v. U.S. Surgical Corp.*, 435 F.3d 1356, 1365 (Fed. Cir. 2006) (Substantial evidence supported jury’s verdict where “[a] reasonable jury could have believed that U.S. Surgical ... would have proceeded to manufacture Versaport II despite receiving outside legal opinions,” and could have inferred that the company “sought legal opinions for their potential evidentiary value ...in future litigation, [thus suggesting] that U.S. Surgical did not rely on any opinions of counsel in good faith.”); *Golden Blount, Inc. v. Robert H. Peterson Co.*, 438 F.3d 1354, 1364-65 (Fed. Cir. 2006) (“Although Peterson argues that it

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<sup>20</sup> Bose submitted substantial evidence and argument rebutting invalidity based on the Frank and Van Der Muelen references. (A1605; A1631-34; A1868; A1904-08.)

acted in good faith and cites several oral opinions of counsel, we conclude ... that the district court did not clearly err in dismissing those opinions as incompetent and in finding that Peterson's assertions of good faith ring hollow."'). *See also Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 244 F.3d 1365, 1379 (Fed. Cir. 2001) (upholding a jury verdict of induced infringement, in part, because it was apparent that the jury discredited the defendant's assertion that it relied upon a non-infringement opinion letter in good faith).

The district court even recognized that "Bose dispute[d] that SDI relied on this opinion," but it ignored Bose's evidence. (A71.) The district court clearly overstepped its role, substituting itself as the fact finder in reaching the ruling it did. Assessing credibility, weighing evidence, and drawing appropriate inferences from the facts are functions of a jury, not those of a judge. *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 151 (2000). Upholding the district court's grant of summary judgment on the evidence presented here would be tantamount to adopting a *per se* rule precluding a finding of indirect infringement whenever a defendant obtains an opinion, no matter the actual merits of the opinion, and merely professes a belief in it which is not supported by any actual evidence. This Court was not willing to go that far in *Commil*, and should not do so here.

#### 4. The District Court's Ruling Was Not Grounded In "Binding Precedents"

The district court's statement that SDI's position was "grounded in binding precedents" was completely wrong. (A69.) The court's analysis led with a quote implying that corporate officers having a "good faith belief" of invalidity immunized them from liability in *Hockerson-Halberstadt, Inc. v. JSP Footwear, Inc.*, 104 Fed.Appx. 721 (Fed. Cir. 2004) (non-precedential). (A72.) The quote is actually from a **dissenting** opinion in that case, *id.* at 727, referencing *Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544 (Fed. Cir. 1990). The majority in *Hockerson-Halberstadt* had **reversed** the grant of summary judgment of no inducement and held that any reliance on the "earlier [decision regarding the] district court's mistaken judgment of invalidity" of the patent-in-suit did not shield the trademark owner from potential liability as an indirect infringer. *Id.* at 724.

The district court's reliance on *Manville* is also inapposite. *Manville* involved an appeal from a **bench trial**, not a grant of summary judgment. After hearing all the evidence, the court, sitting as fact-finder, held that while the defendant had a good faith belief of noninfringement, its corporate officers were personally liable for induced infringement. *Manville*, 917 F.2d at 553. This Court reversed because the evidence at the bench trial did not demonstrate that

the company (and by extension its officers) knew of the patent prior to the lawsuit, and the infringing acts only continued after the alleged inducers acquired what the lower court had found to be a good faith belief, of noninfringement based on advice of counsel. *Id.* at 553-54; *see also Golden Blount*, 438 F.3d at 1364-65 (distinguishing *Manville*).

The *Manville* facts are easily distinguishable. SDI knew of the ‘765 patent and Bose’s infringement contentions prior to the lawsuit and did not obtain any opinion until months after it had already been communicating with Bose about its potential liability. (A58-59; A4939; A4755-57.) There is no evidence that it ever suspended sale of the iW1 pending receipt of that opinion,<sup>21</sup> and the business executives of SDI never even read the opinion. (A4762 citing (A5233-36(tr.148:2-151:24).)

At the summary judgment hearing, the court pressed SDI to provide support for its position, as even the court understood that SDI’s position was a reach. (A6453(tr.9:8-9: “I would have to reach out – on this prong – reach out and make that ruling as matter of law.”).) SDI was unable to articulate a single

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<sup>21</sup> In its briefing, SDI essentially conceded that its sales were never suspended. (A6396, stating, “Based on these opinions, the Defendants believed there was no need to stop selling products or distributing product manuals.”)

case in which a court granted summary judgment because the inducer merely professed to have a good faith belief of invalidity. (A6453.)

In post-hearing briefing, SDI cited to *Young v. Lumenis, Inc.*, No. 2:03-cv-655, 2006 U.S. Dist. LEXIS 13585 (S.D. Ohio Mar. 28, 2006), as a case where summary judgment of no inducement was granted based on lack of intent. In that case, the district court ruled that intent was lacking primarily because there was no evidence that the 10-step method described in the one remaining asserted claim had ever been described or taught to potential customers as a use of the accused infringing product. *Id.* at \*14-\*18. That is not the case here. Like all its accused products, SDI's iW1 is intentionally designed to work with an iDevice. (A5200 (markings "Made for iPod/iPhone"); A5215 (identifying iDevices).) The manual specifically instructs users both visually and by description how to combine and use the iW1 with an iDevice (A5201-10), and that combination, as Kaliski explained, infringes the claims.

Accordingly, the district court's grant of summary judgment based on SDI's professed good faith belief was unprecedented and completely unfounded. It should be reversed.

**5. The District Court's Ruling Improperly Insulates SDI From Future Indirect Infringement**

Further, the district court's decision effectively insulates SDI from future bad-faith conduct with regard to the iW1. The court found that the patent's validity and the iW1's infringement were both triable issues for the jury. Thus, even if SDI allegedly had a good faith belief of invalidity pre-trial, a reasonable jury could find against SDI on both issues, then SDI could no longer profess good faith based on those issues as an excuse for its infringement from that point forward. By dismissing the case, the court improperly pre-judged that issue. For this further reason, summary judgment of no indirect infringement should be reversed.

**B. A Genuine Dispute Of Material Fact Exists Regarding SDI's Contributory Infringement**

To establish the requisite intent for contributory infringement, Bose was required show that SDI knew of the '765 patent and that SDI "knew that the combination for which [its] component was especially designed was both patented and infringing." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 488 (1964); *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1330 (Fed. Cir. 2010).

Where a defendant has knowledge of the patent and the accused component does not have any substantial noninfringing uses, the requisite intent for finding contributory infringement is presumed. *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 932 (2005) (“One who makes and sells articles which are only adapted to be used in a patented combination will be presumed to intend the natural consequences of his acts; he will be presumed to intend that they shall be used in the combination of the patent.”) (internal quotations omitted); *Spansion, Inc. v. Int’l Trade Comm’n*, 629 F.3d 1331, 1355 (Fed. Cir. 2010) (“[B]ecause license negotiations indicated that Appellants were aware of the ‘419 patent, and Tessera successfully showed that the accused devices did not have any substantial non-infringing uses, the Commission presumed the requisite knowledge for contributory infringement. This conclusion was not erroneous.”) (citations omitted); *Ricoh Co., Ltd. v. Quanta Computer Inc.*, 550 F.3d 1325, 1338 (Fed. Cir. 2008) (“When a manufacturer includes in its product a component that can **only** infringe, the inference that infringement is intended is unavoidable.”).

At summary judgment, Bose asserted that all the products including the iW1 include a remote control feature that is a material component of the claimed invention and has no noninfringing uses. (A6459; A6472-74; A6493; A6497-

99.) Kaliski opined that the iW1 includes a remote control that is configured to control a function of an iDevice, and has circuitry for receiving those commands and for processing and transmitting signals corresponding to those control commands via the USB docking port that couples the iDevice to the iW1.

(A4894-97.) This remote control feature is a material component of the invention recited in independent claim 1, 35 and 37. (*Id.*) As evidenced by the prosecution history, it is a key feature of the invention.

Kaliski further explained that this combination of components has no non-infringing uses. (*Id.*; A6472-74; A6499.) Defendants contended below that the combination was not a proper component and that because the accused products (including the iW1) include a “line in” or “auxiliary in” port to connect to an audio source, contributory infringement cannot be established. (A6393, n.3.) Although it may be possible to use aspects of the iW1 that do not involve the remote control feature, these uses do not constitute substantial noninfringing uses. *See i4i Ltd. Partnership v. Microsoft Corp.*, 598 F.3d 831, 849 (Fed. Cir. 2010), *aff’d*, \_\_\_ U.S. \_\_\_, 131 S.Ct. 2238 (2011).

In *i4i*, this Court held that the XML Editor in Microsoft Word was “separate and distinct” from all other functions of Word and that it was proper to analyze contributory infringement based on this separable feature, rather than

the entire product. *i4i*, 598 F.3d at 849. *See also Fujitsu*, 620 F.3d at 1330-31 (“[T]he fragmentation functions of the accused products in this case are ‘separate and distinct’ features and we must treat them separately in analyzing contributory infringement.”). Here the combination of components corresponding to the remote control feature is separate and distinct from the other features of the iW1, and because it is a separable feature, it is proper to analyze contributory infringement based on it, rather than the entire product.

The district court’s analysis did not address this argument and evidence. In view of this evidence coupled with SDI’s pre-suit notice of the patent, a reasonable jury could conclude that SDI had the requisite intent to support a finding of contributory infringement. Summary judgment should have been denied on this basis.

**C. A Genuine Dispute of Material Fact Exists Regarding SDI’s Induced Infringement**

The district court also did not address Bose’s argument and evidence on inducement.

Liability for inducement requires showing “knowledge that the induced acts constitute patent infringement.” *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S.Ct. 2060, 2068 (2011). This includes, in part, “knowledge of the existence of the patent that is infringed.” *Id.* “[T]he alleged infringer must be

shown ... to have **knowingly** induced infringement, not merely knowingly induced the **acts** that constitute direct infringement.” *DSU Med. Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (en banc) (emphasis in original); (internal quotations omitted). “It is enough that the inducer cause[s], urge[s], encourage[s], or aid[s] the infringing conduct and that the induced conduct is carried out.” *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1308 (Fed. Cir. 2012) (en banc) (internal quotations omitted).

SDI not only knew of the ‘765 patent months before suit, it also knew of Bose’s contentions as to SDI’s infringement. (A4939.) Bose’s contentions were also explained in detail in the suit. SDI’s iW1 manual specifically encourages users to infringe the ‘765 patent. The manual specifically instructs users how to use the iW1 with an iDevice (A5201-10), and that combination, as Kaliski explained, infringes the claims. (A4845-57; A4892-94.) As noted, the iW1 is **intentionally** designed to work with an iDevice, and SDI specifically markets the products as being an interactive iDevice product. (A5200 (having markings “Made for iPod/iPhone”); A5215 (identifying iDevices); A5239(tr.238:4-10) (touting use with iDevices).) Based on this evidence and drawing all reasonable inferences in favor of Bose, a reasonable jury could conclude that SDI had the requisite intent to support a finding of induced infringement. *Broadcom Corp.*

*v. Qualcomm Inc.*, 543 F.3d at 700 (“[T]he drawing of inferences, particularly in respect of an intent-implicating question ... is peculiarly within the province of the fact finder that observed the witnesses.”) (internal quotations omitted).

Indeed, this is classical evidence of active steps taken to encourage another’s direct infringement, and remains so—even post *Global-Tech*—to create a triable issue on specific intent. *See Advanced Software Design Corp. v. Fiserv, Inc.*, 641 F.3d 1368, 1376 (Fed. Cir. 2011) (“Advanced Software proffered evidence that Fiserv knew of the ‘110 patent and instructed its bank customers about how to use Secure Seal to validate checks. That evidence is sufficient to create a genuine issue of material fact as to whether Fiserv had the requisite specific intent to induce infringement.”). On this basis, summary judgment should have been denied.

## CONCLUSION

For all the foregoing reasons, Bose respectfully requests that this Court correct the district court's claim construction errors, reverse grant of summary judgment on all grounds, and remand this case for further proceedings.

Dated: July 15, 2013

By /s/ Mark J. Hebert

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Corporation

# Addendum A



US00727765B1

(12) **United States Patent**  
**Beckmann et al.**

(10) **Patent No.:** **US 7,277,765 B1**  
(45) **Date of Patent:** **Oct. 2, 2007**

(54) **INTERACTIVE SOUND REPRODUCING**

(75) Inventors: **Paul E. Beckmann**, Southborough, MA (US); **Santiago Carvajal**, West Newton, MA (US); **Christopher H. Perry**, Westborough, MA (US)

(73) Assignee: **Bose Corporation**, Framingham, MA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 602 days.

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(21) Appl. No.: **09/689,337**

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(22) Filed: **Oct. 12, 2000**

(Continued)

(51) **Int. Cl.**

**G06F 17/00** (2006.01)

**G10L 21/00** (2006.01)

**G10H 1/00** (2006.01)

(52) **U.S. Cl.** ..... **700/94; 704/272; 84/604**

(58) **Field of Classification Search** ..... **700/94; 707/104.1; 704/270, 272, 278; 715/727; 84/600, 601, 602, 604**

See application file for complete search history.

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Primary Examiner—Xu Mei

(74) Attorney, Agent, or Firm—Fish & Richardson P.C.

(57) **ABSTRACT**

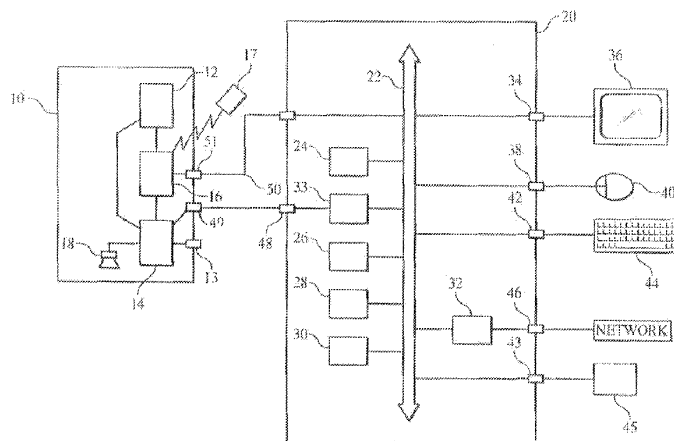
An audio system attachable to a computer includes a sound reproduction device for producing audible sound from audio signals. The sound reproduction device includes a radio tuner and a powered speaker. The audio system further includes a connector for connecting the sound reproduction device with a computer. The computer provides audio signals from a plurality of sources, the sources including a computer CD player, digitally encoded computer files stored on the computer, and a computer network connected to the computer. The sound reproduction device further includes control buttons for controlling at least one of the computer CD player, the digitally encoded computer files and the computer network.

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**43 Claims, 33 Drawing Sheets**



**US 7,277,765 B1**

Page 2

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U.S. Patent

Oct. 2, 2007

Sheet 1 of 33

US 7,277,765 B1

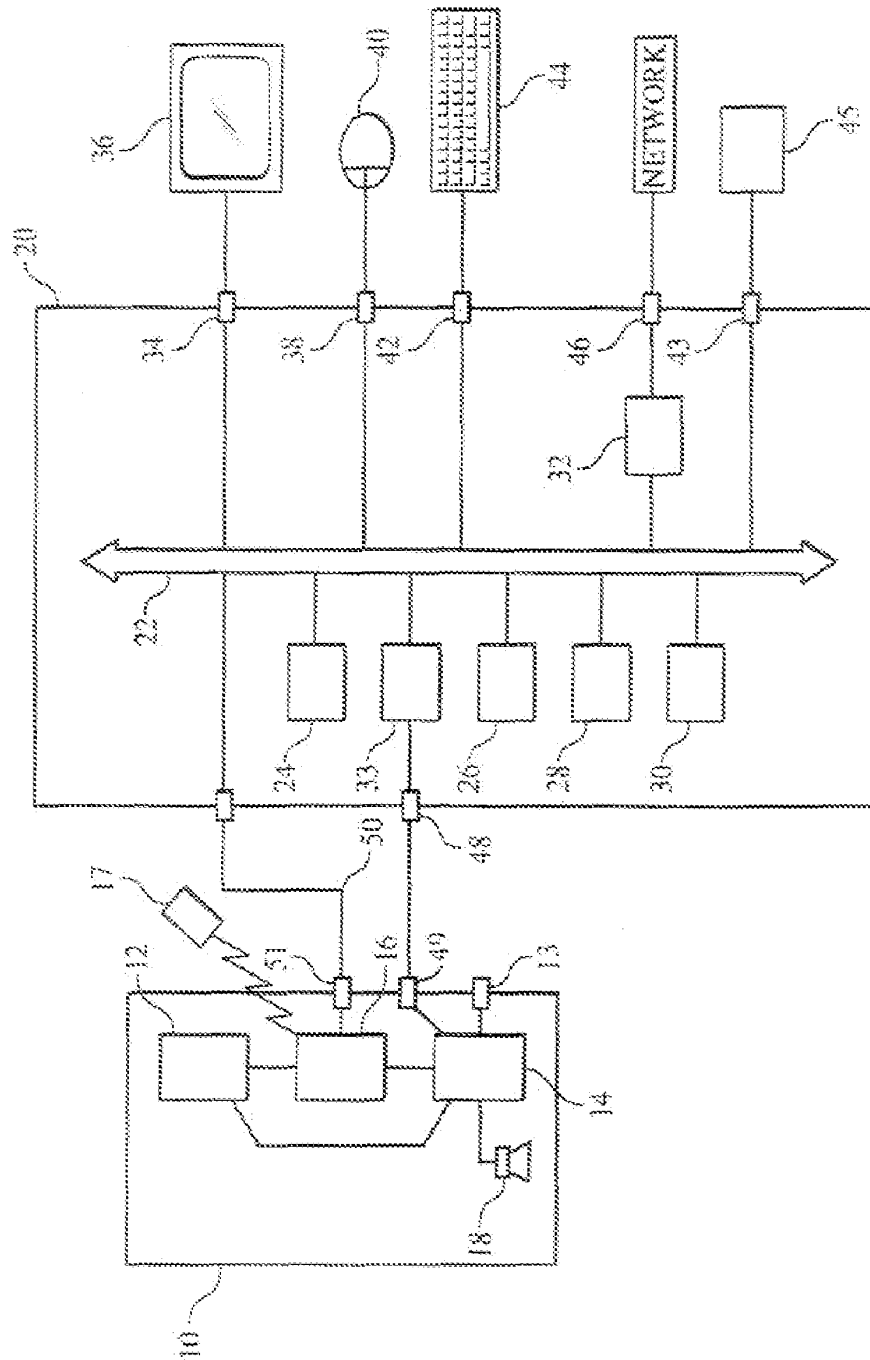
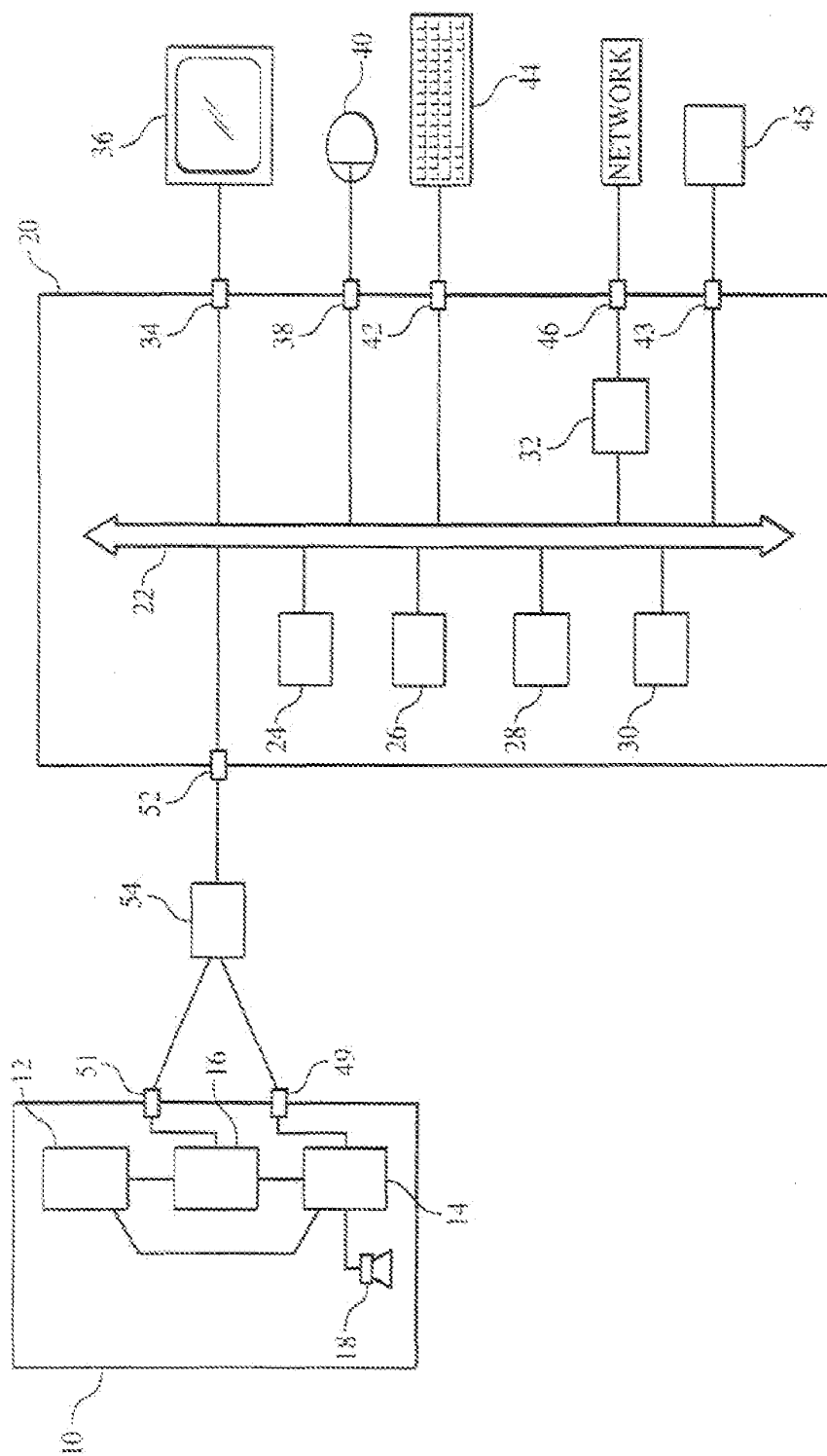


FIG. 1



U.S. Patent

Oct. 2, 2007

Sheet 3 of 33

US 7,277,765 B1

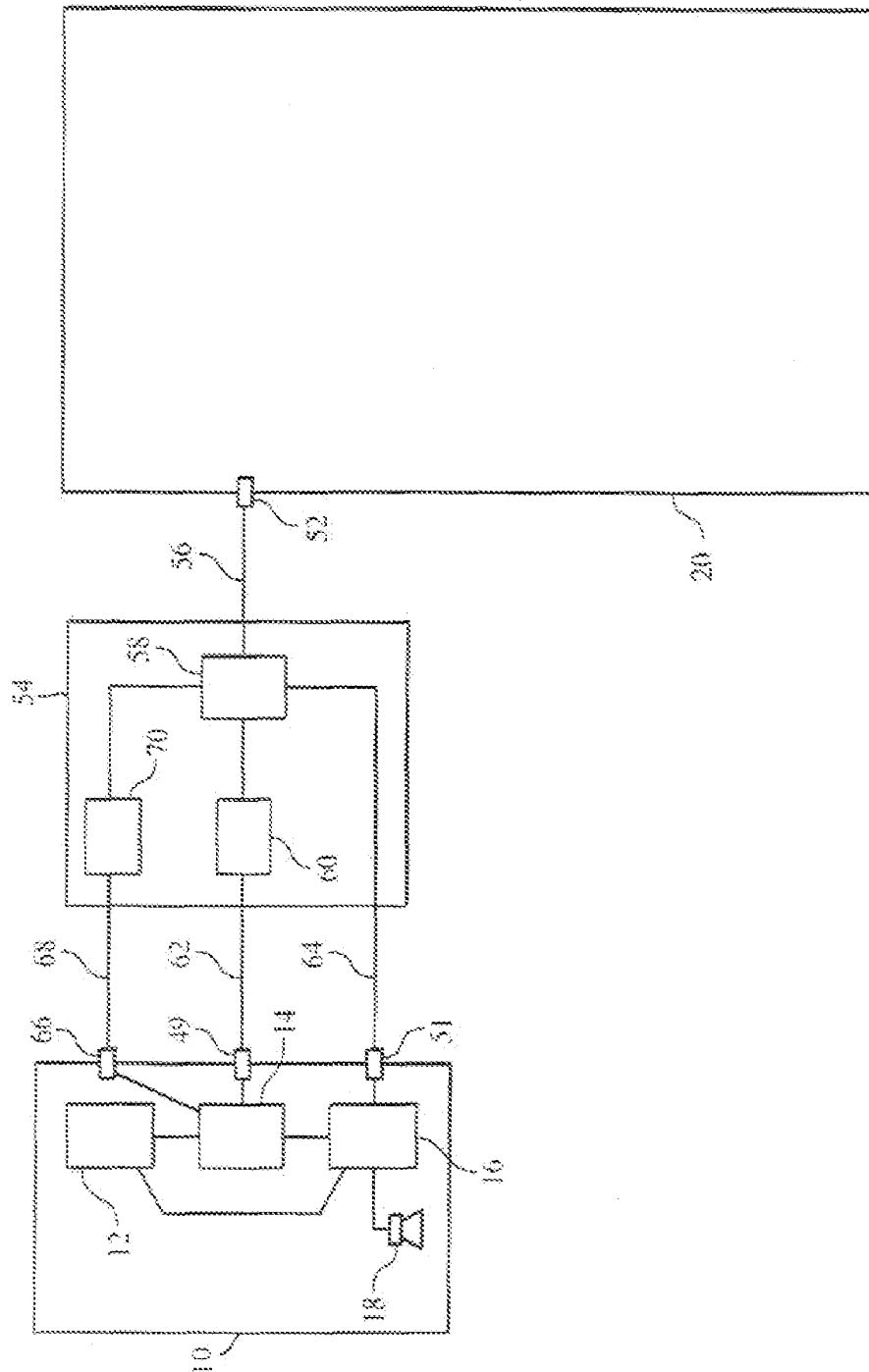


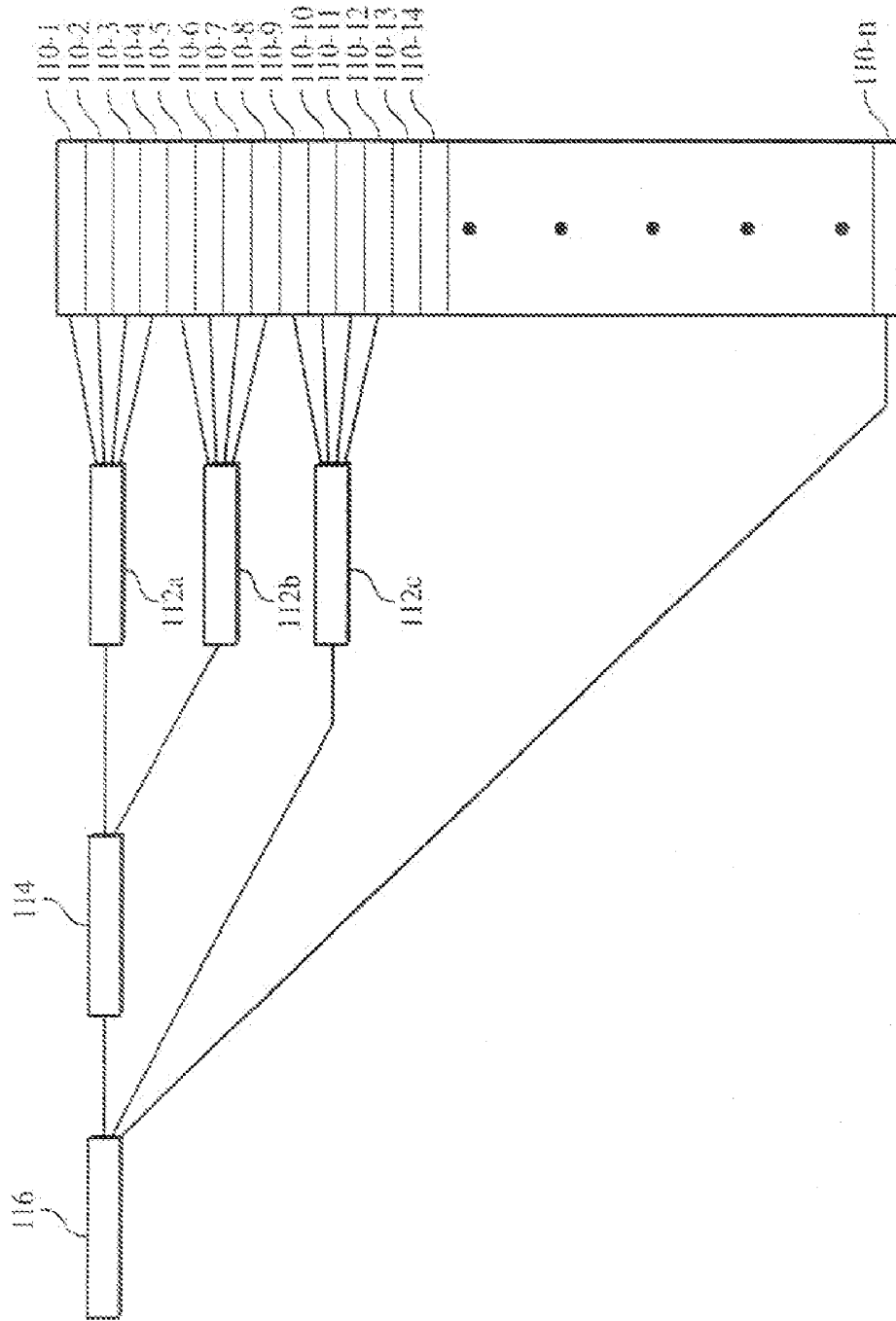
FIG. 3

U.S. Patent

Oct. 2, 2007

Sheet 4 of 33

US 7,277,765 B1



U.S. Patent

Oct. 2, 2007

Sheet 5 of 33

US 7,277,765 B1

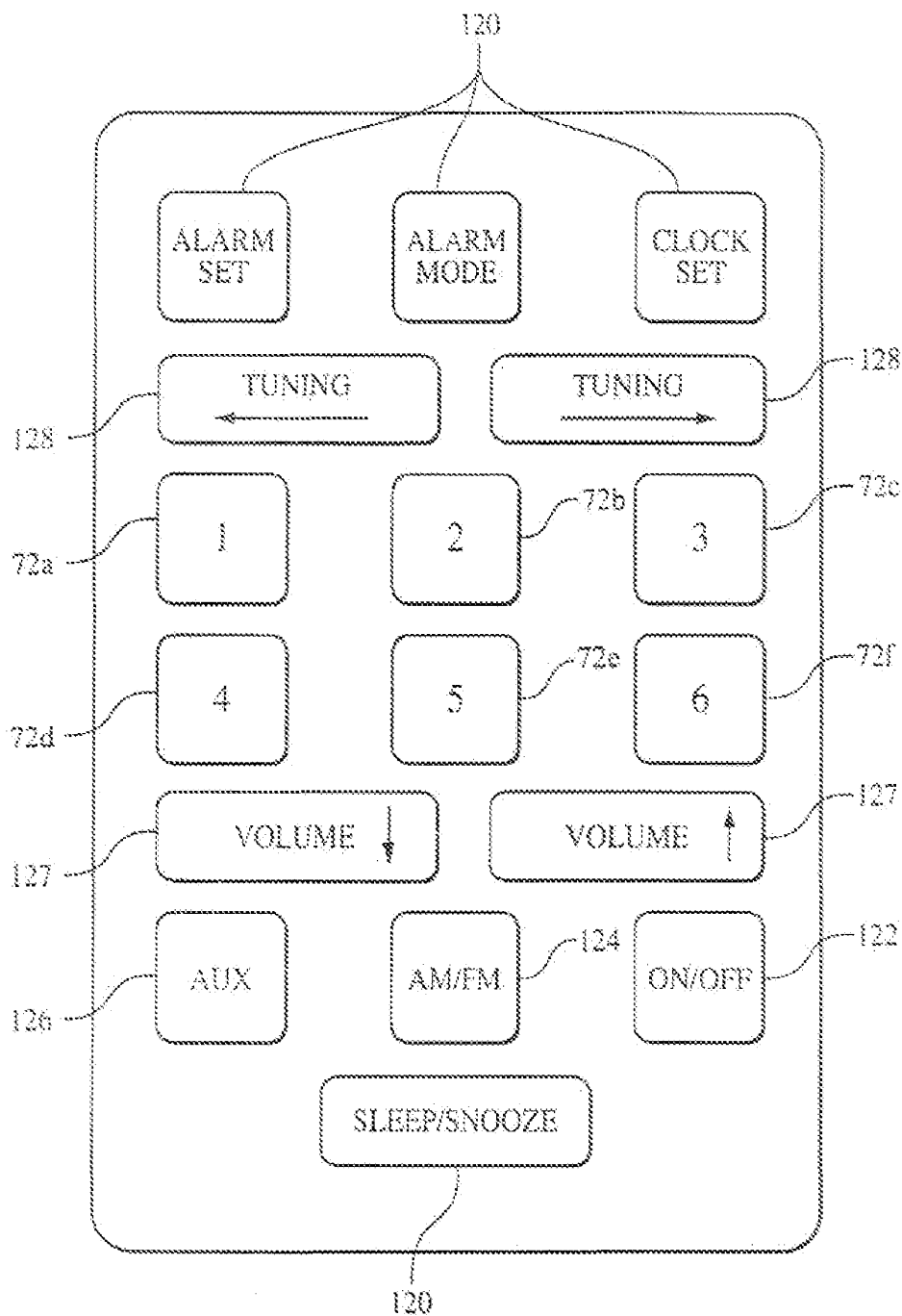


FIG. 5

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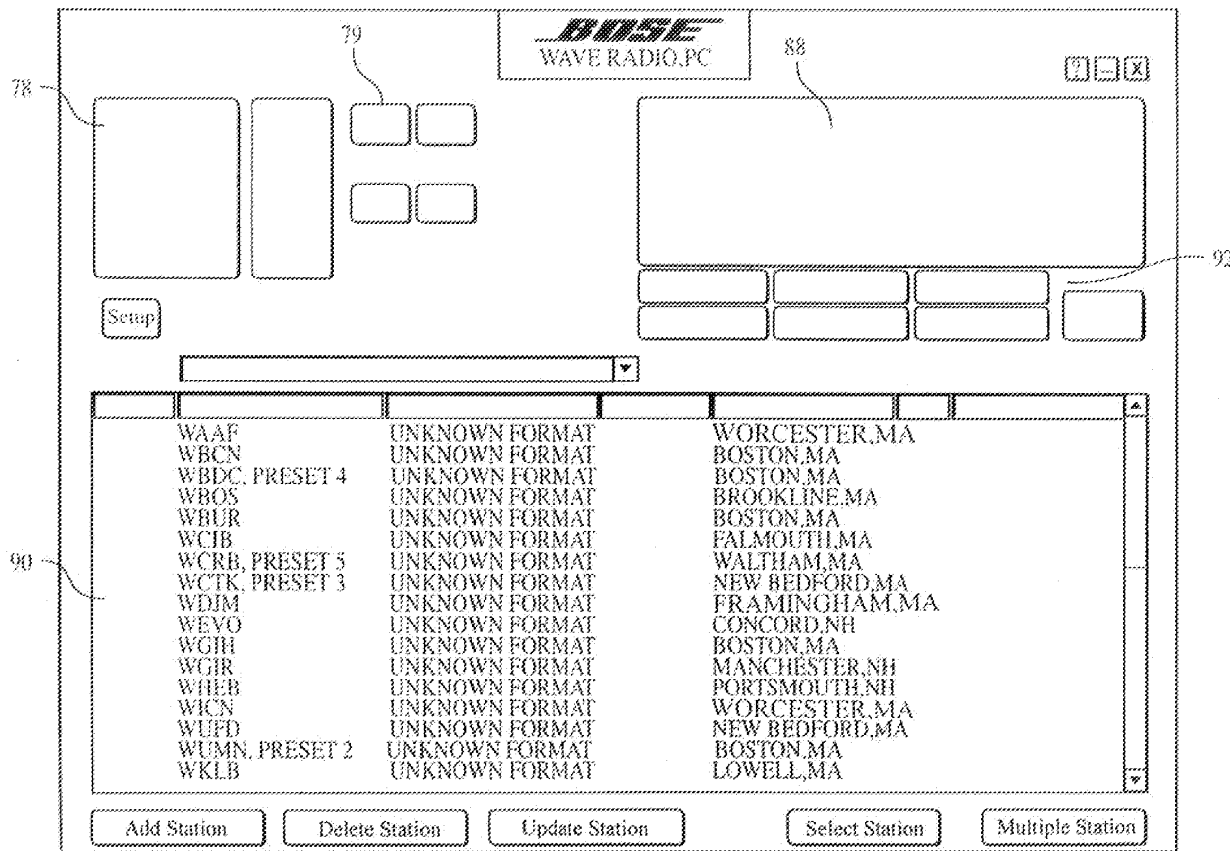


FIG. 6

U.S. Patent

Oct. 2, 2007

Sheet 7 of 33

US 7,277,765 B1

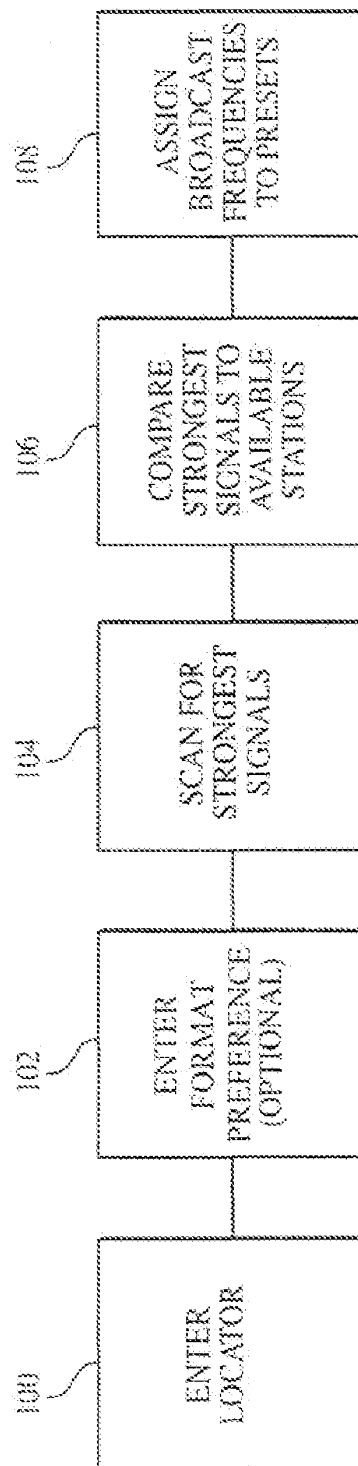


FIG. 7

U.S. Patent

Oct. 2, 2007

Sheet 8 of 33

US 7,277,765 B1

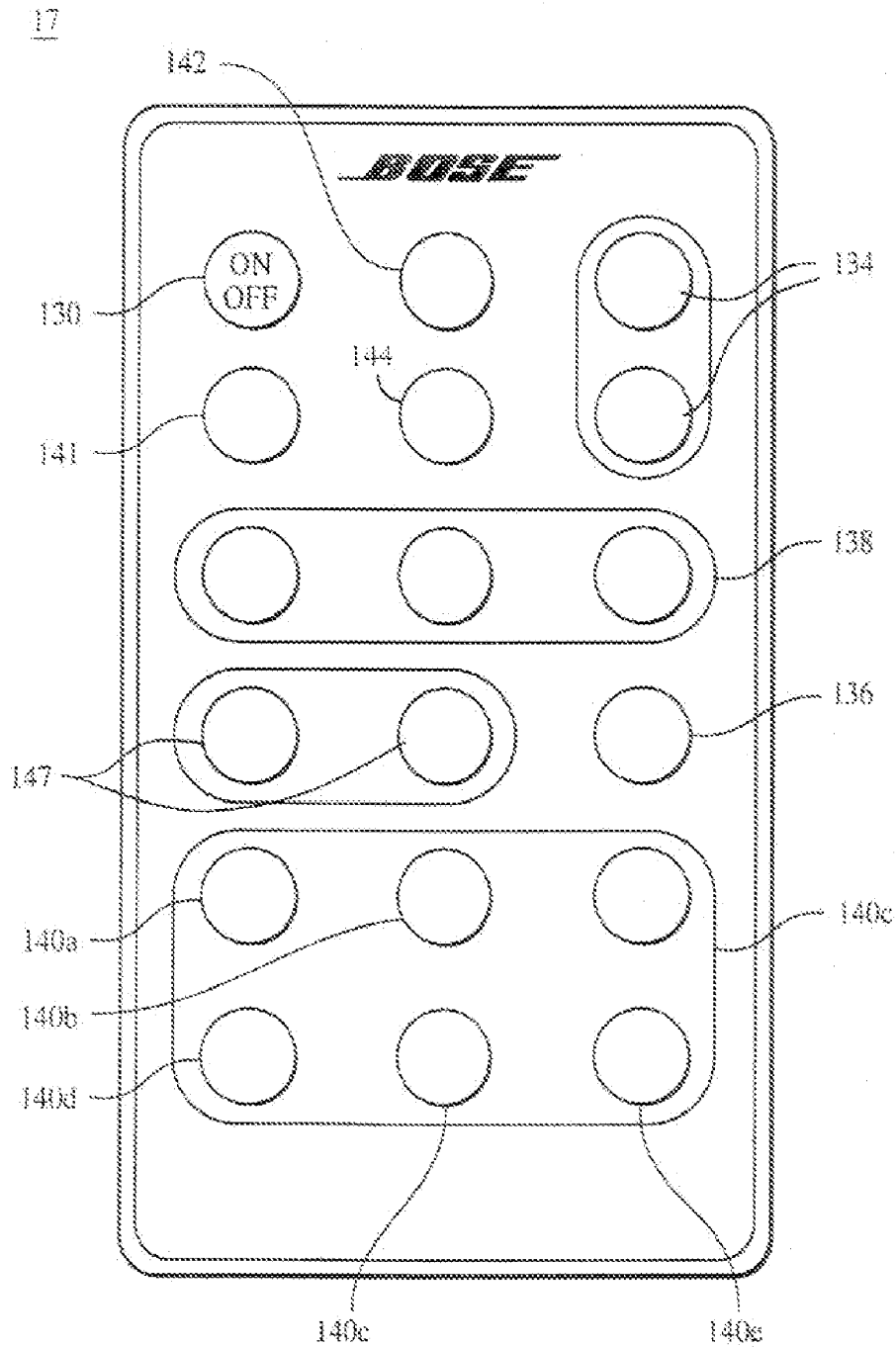


FIG. 8

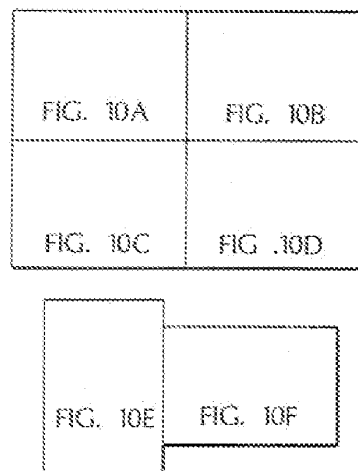
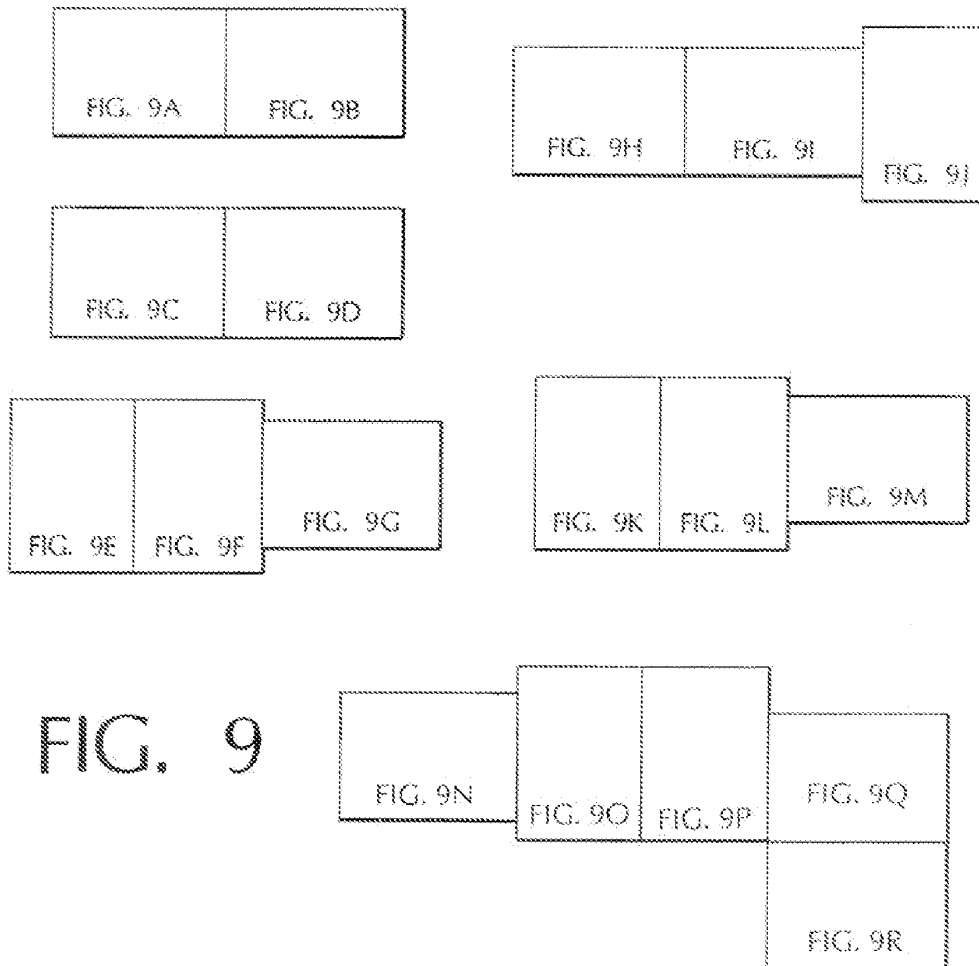
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**U.S. Patent**

**Oct. 2, 2007**

**Sheet 9 of 33**

**US 7,277,765 B1**



**FIG. 10**

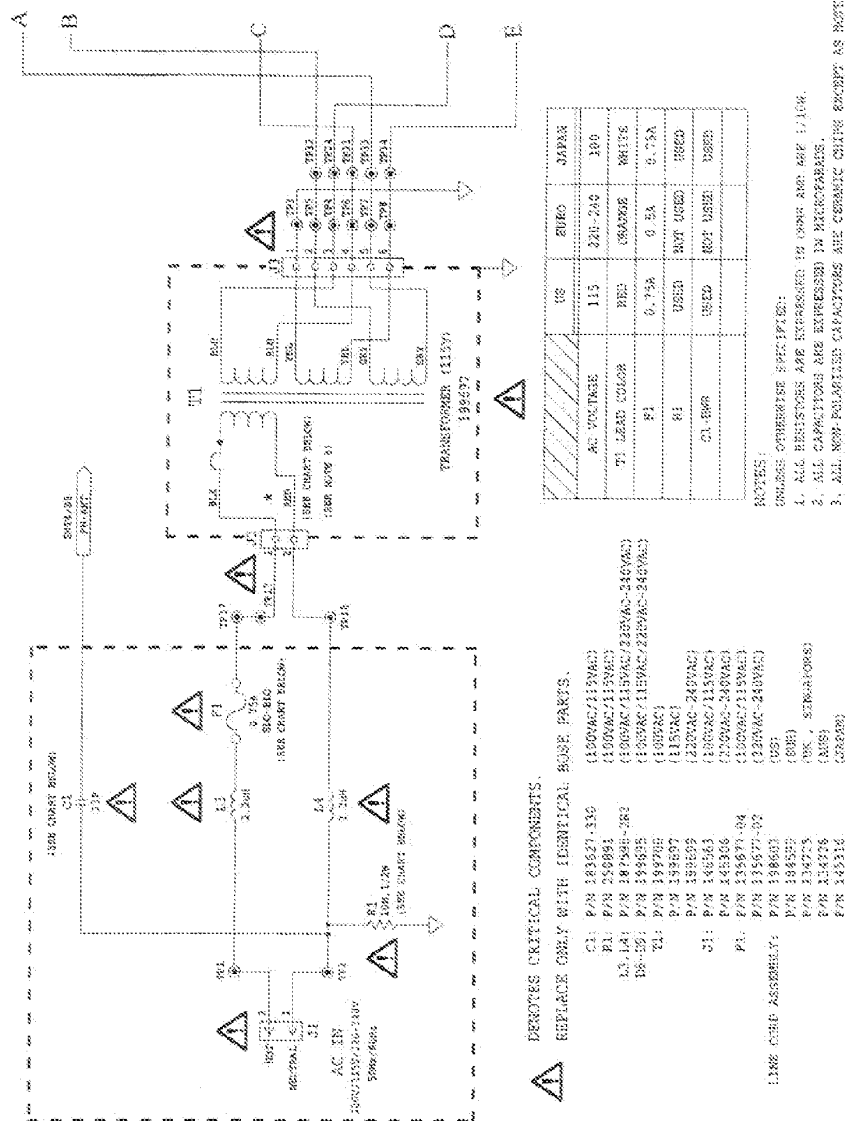


FIG. 9A

U.S. Patent

Oct. 2, 2007

Sheet 11 of 33

US 7,277,765 B1

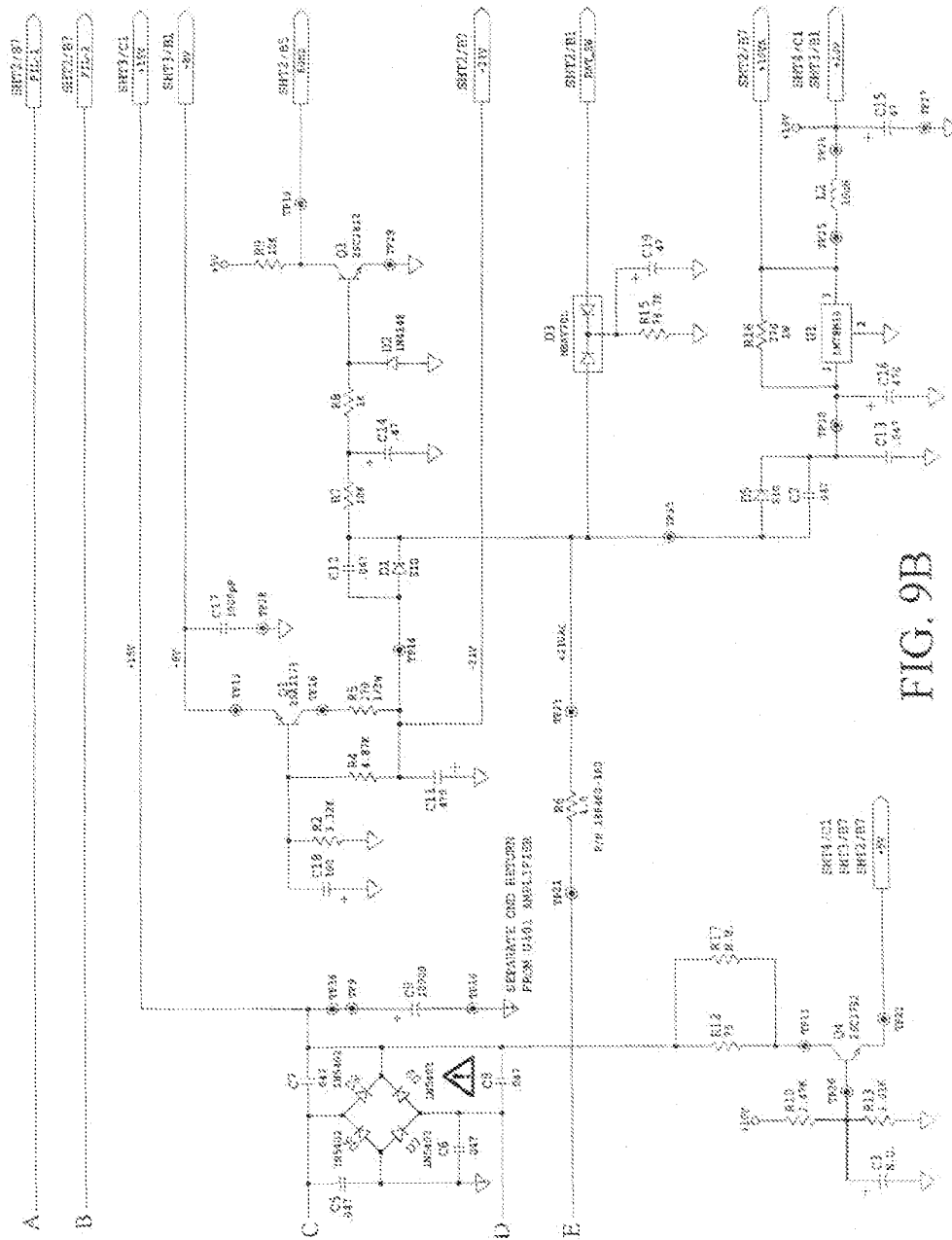
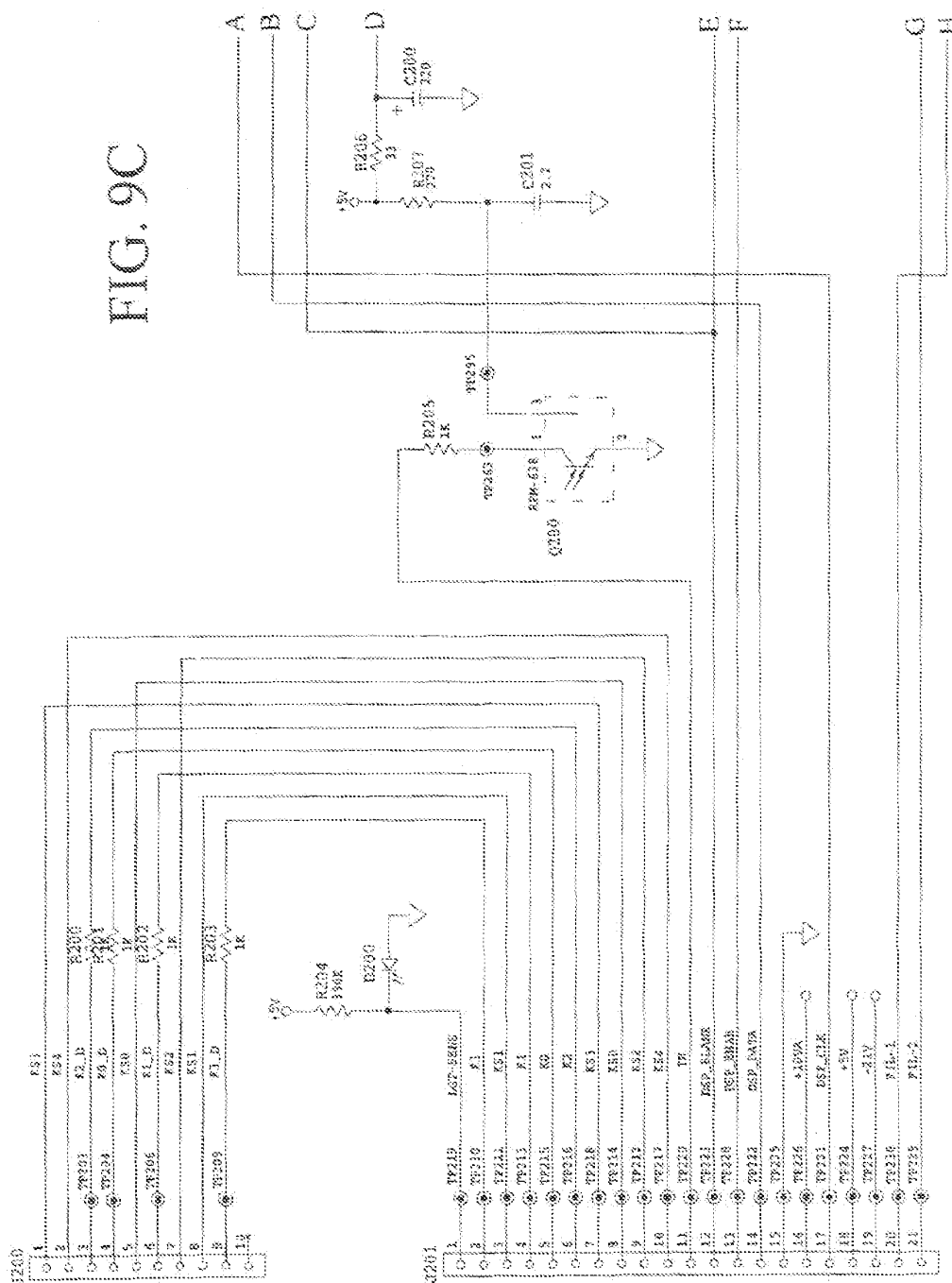
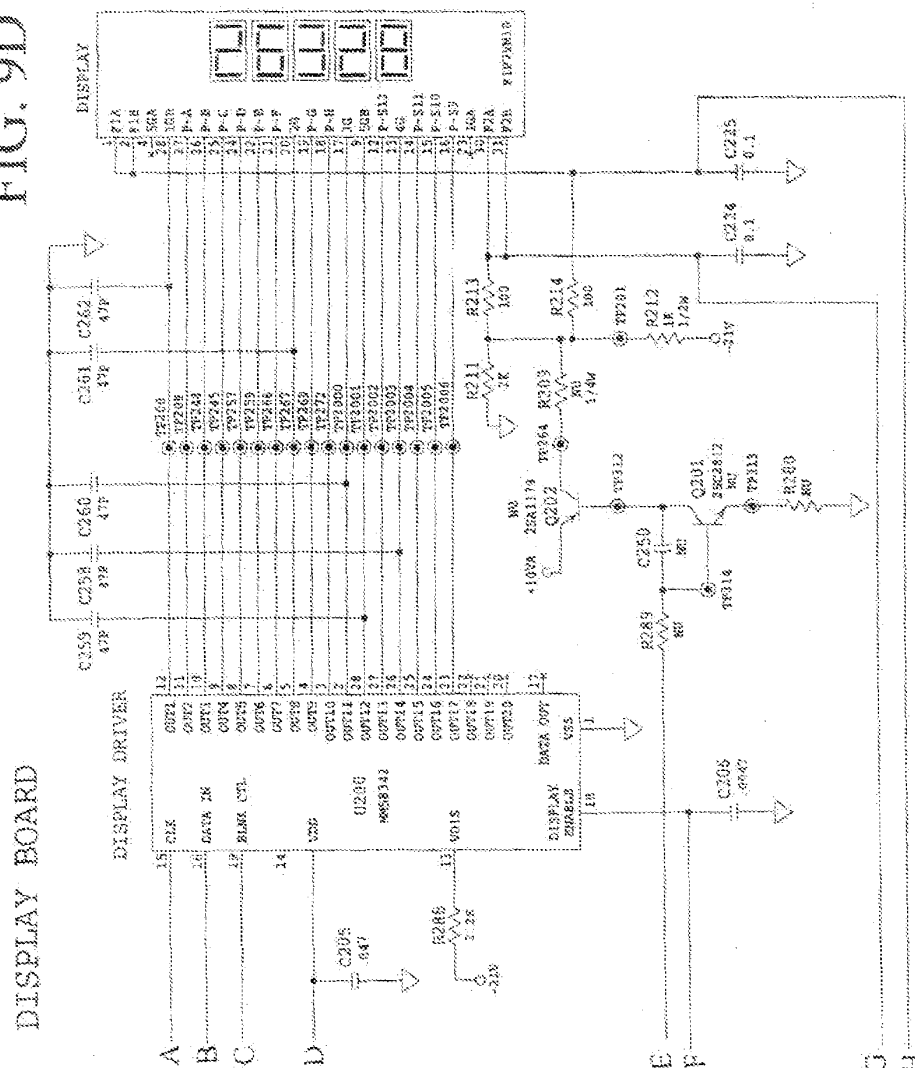


FIG. 9B

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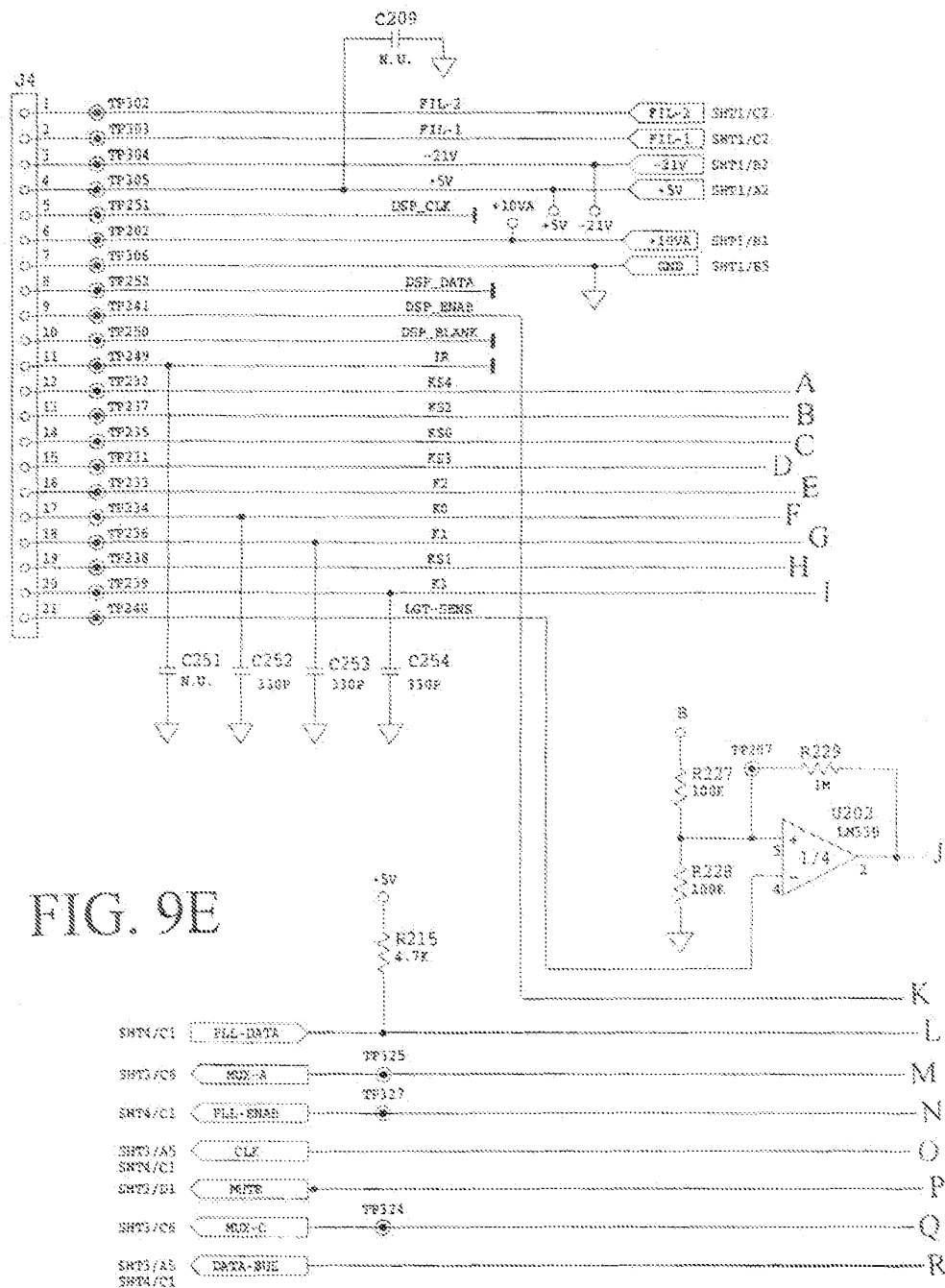


U.S. Patent

Oct. 2, 2007

Sheet 14 of 33

US 7,277,765 B1



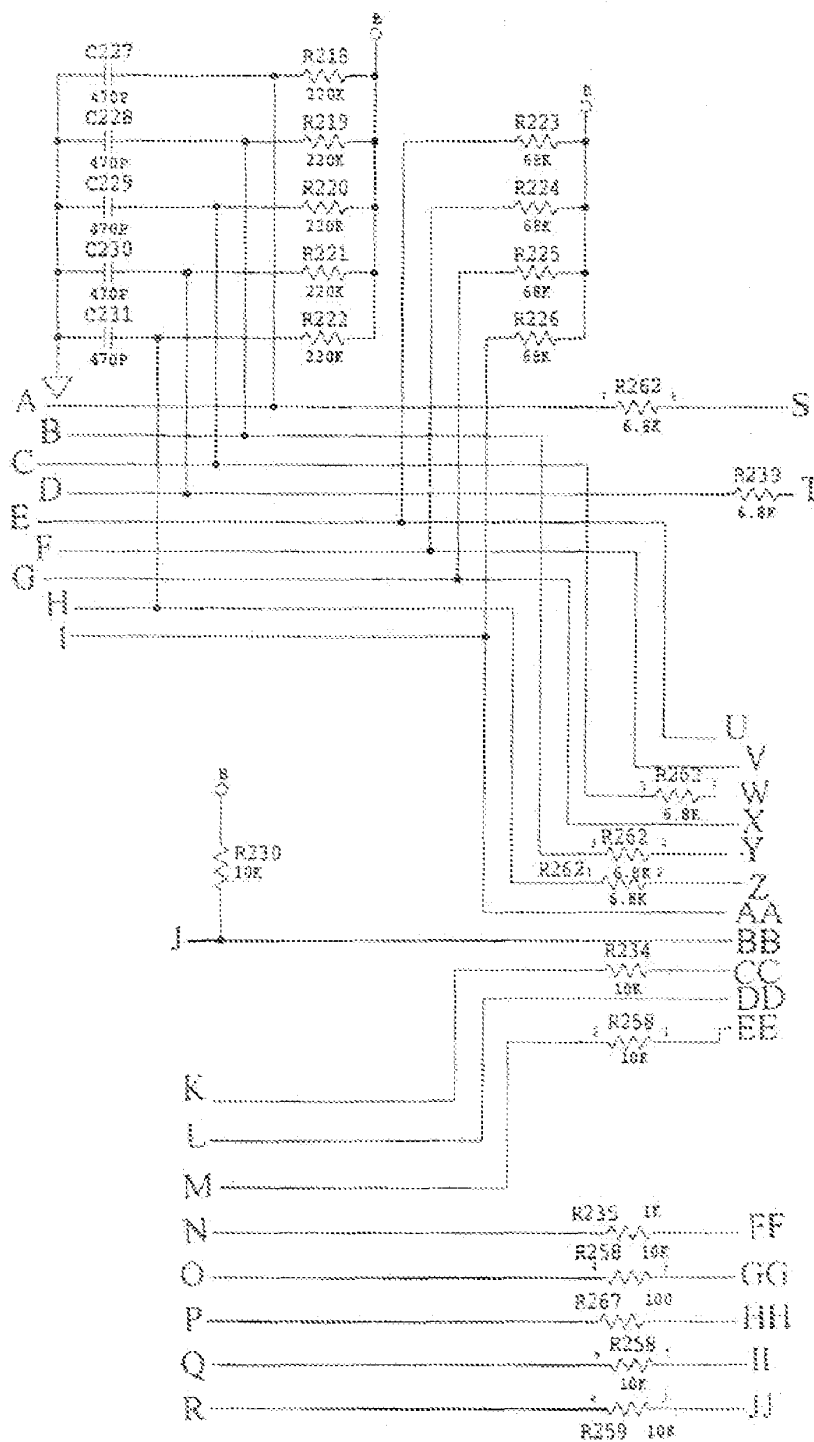
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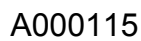
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Oct. 2, 2007

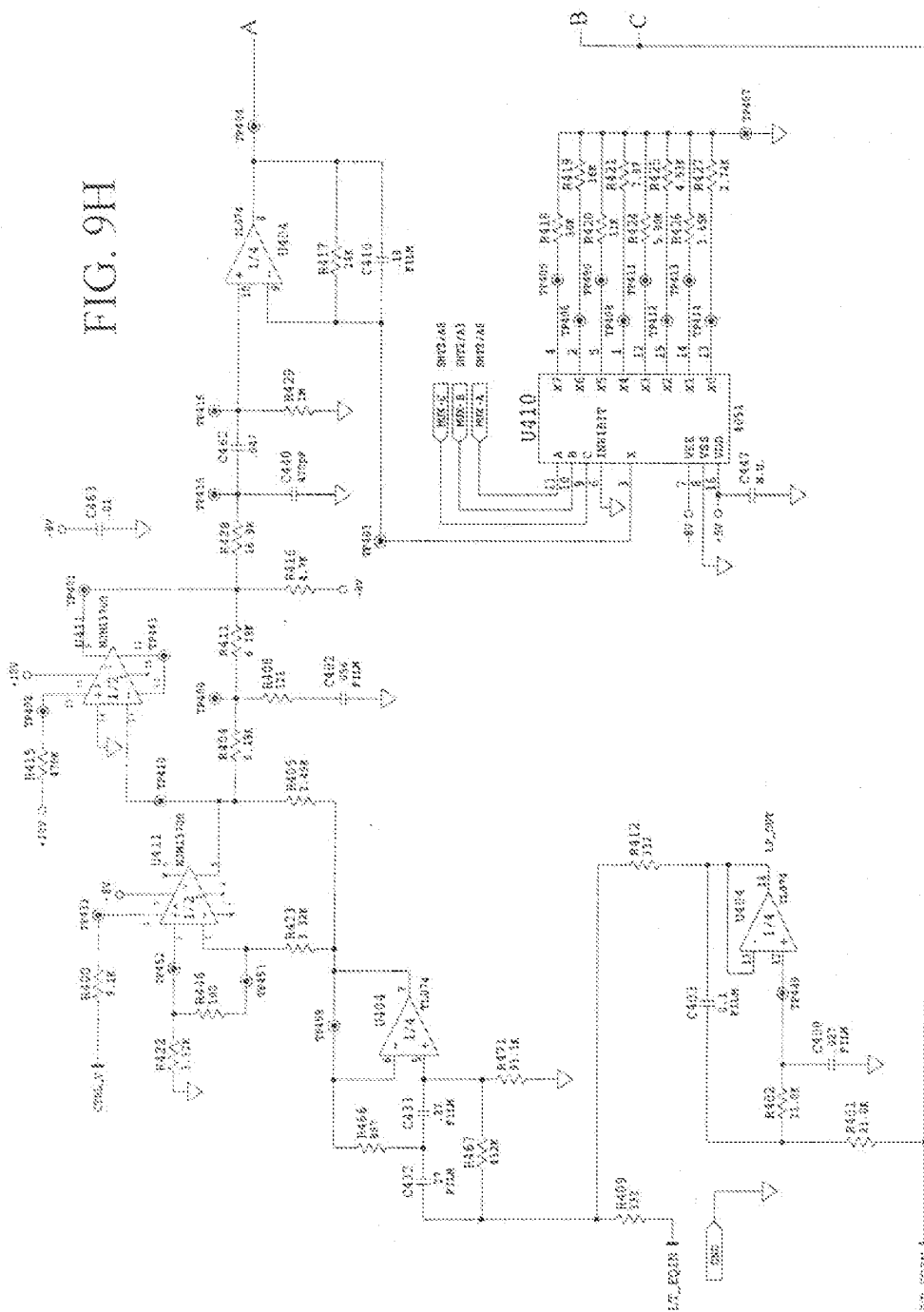
Sheet 15 of 33

US 7,277,765 B1

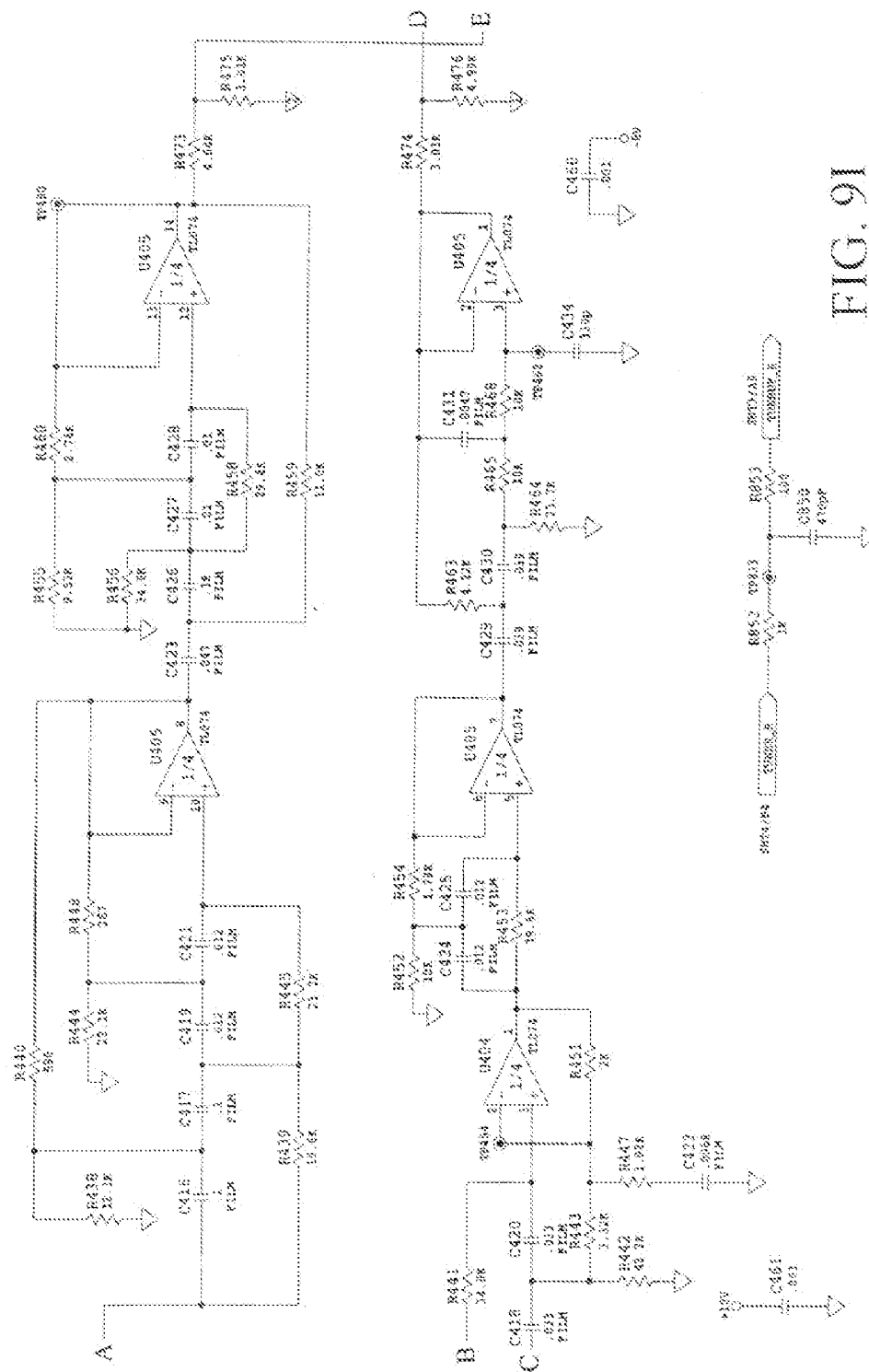




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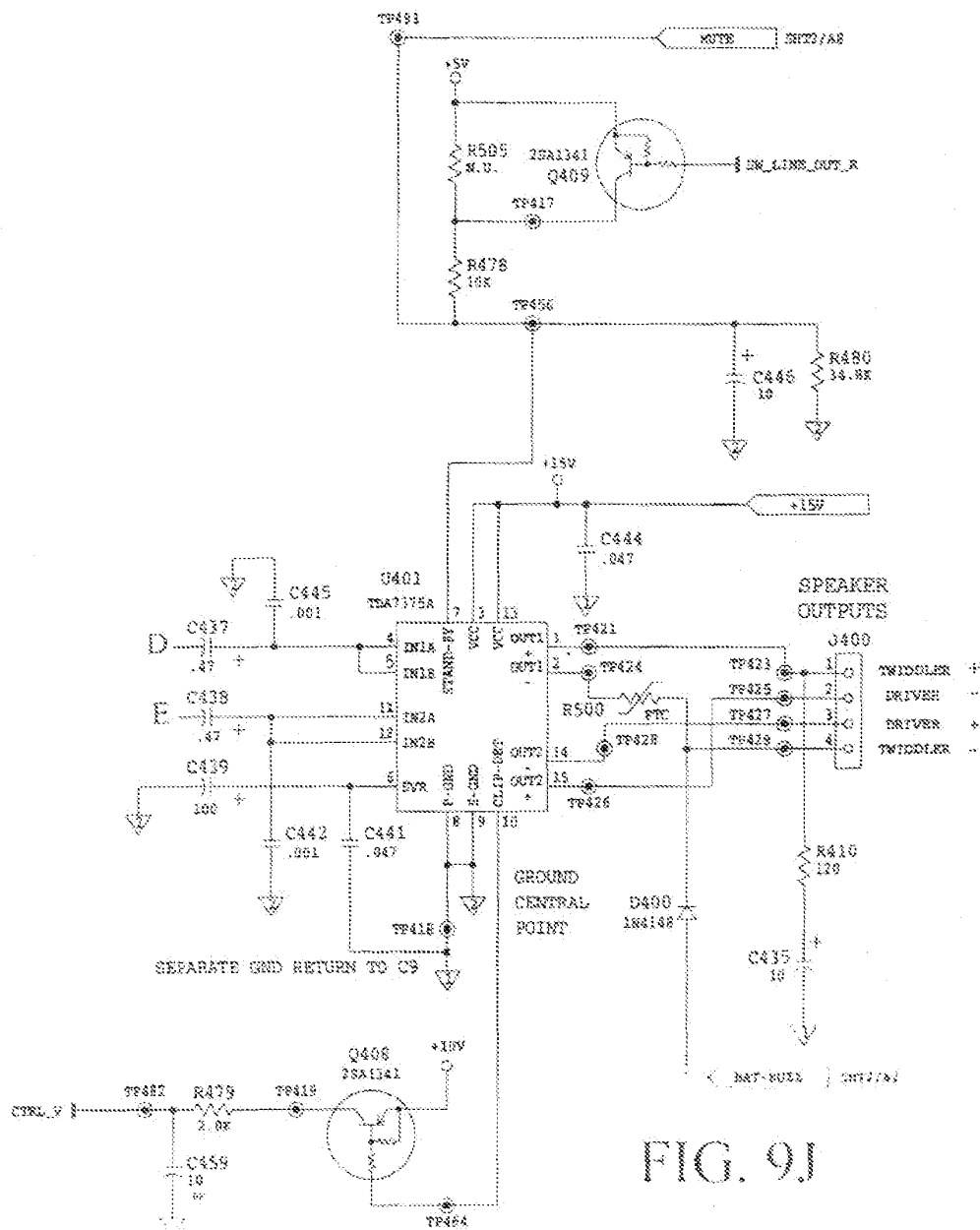
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## U.S. Patent

**Oct. 2, 2007**

Sheet 19 of 33

US 7,277,765 B1

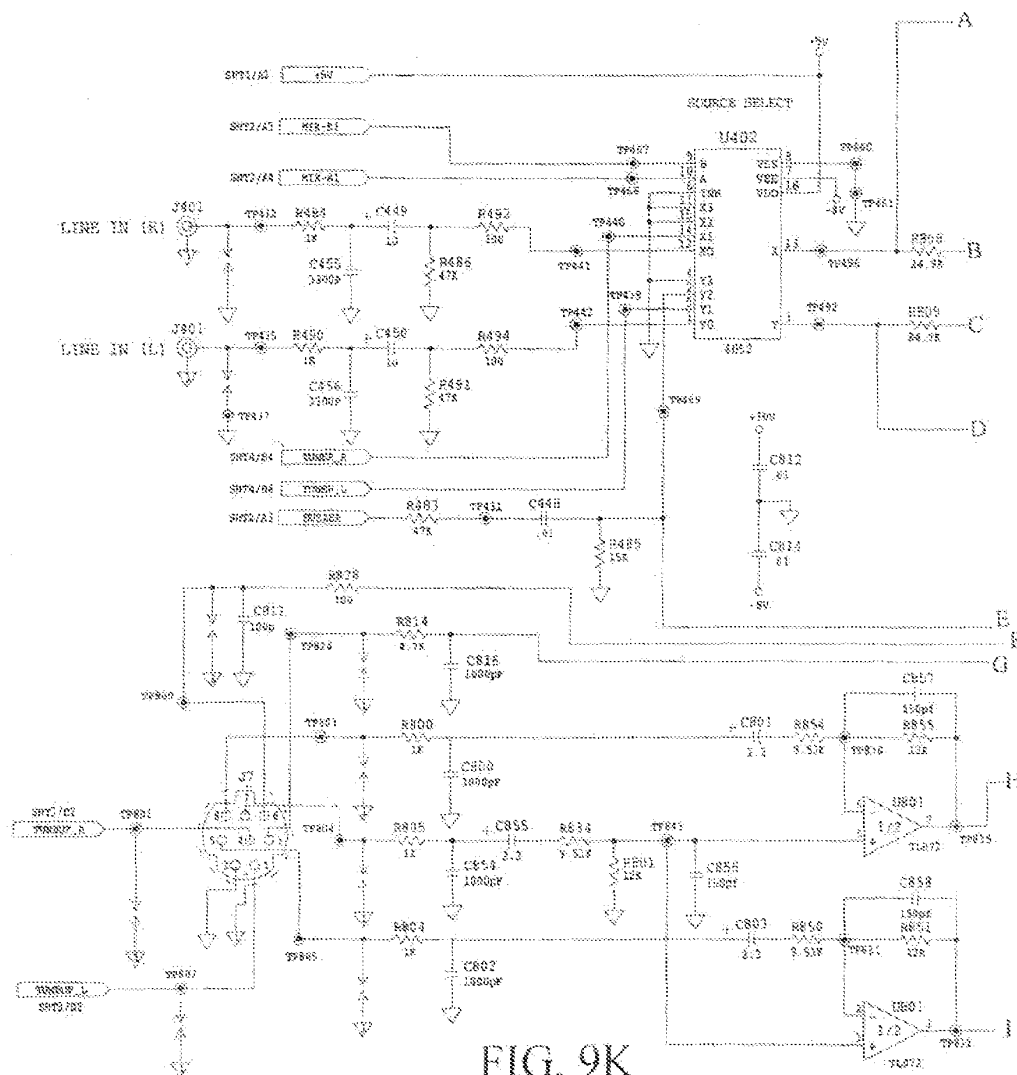


## U.S. Patent

**Oct. 2, 2007**

Sheet 20 of 33

US 7,277,765 B1



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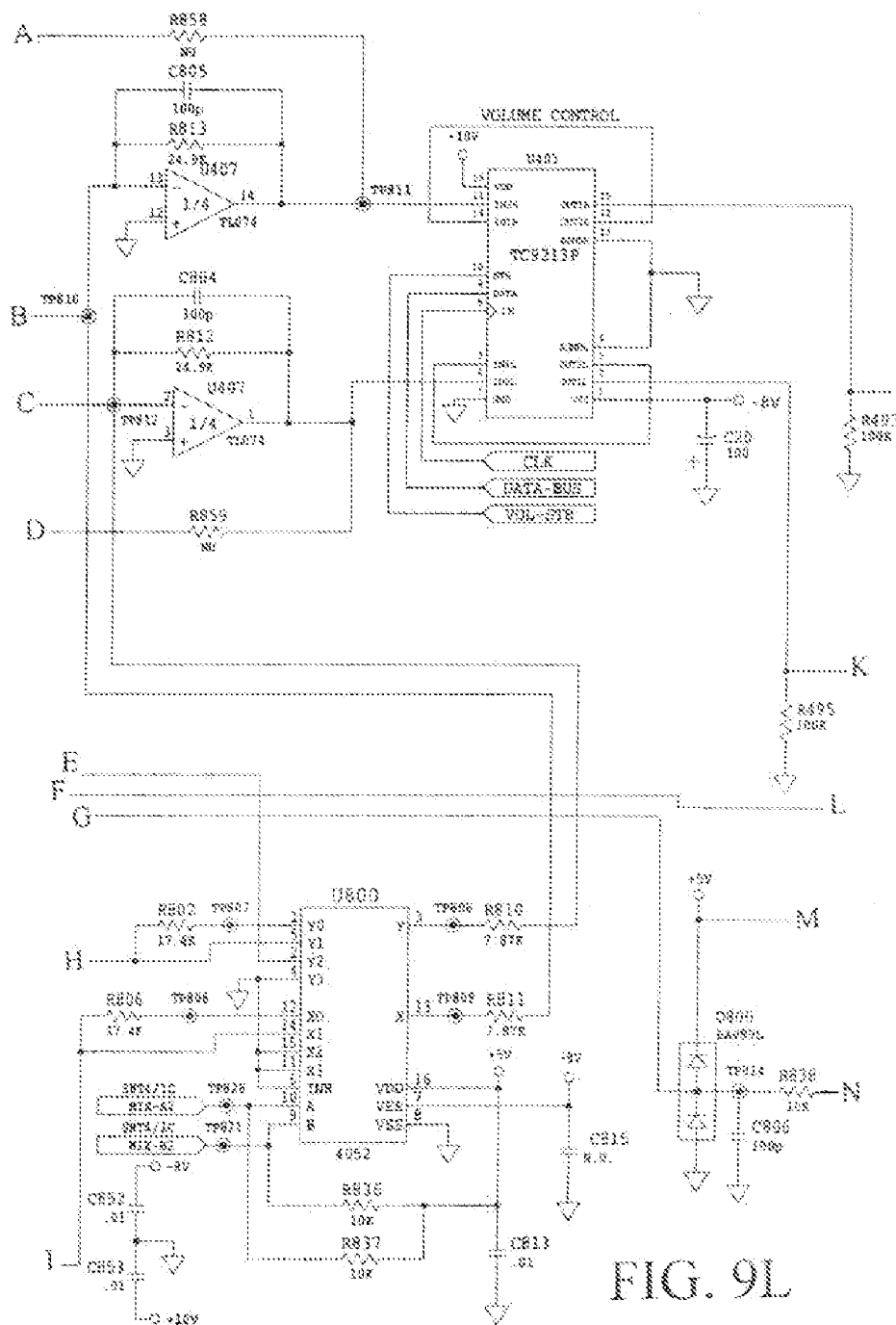
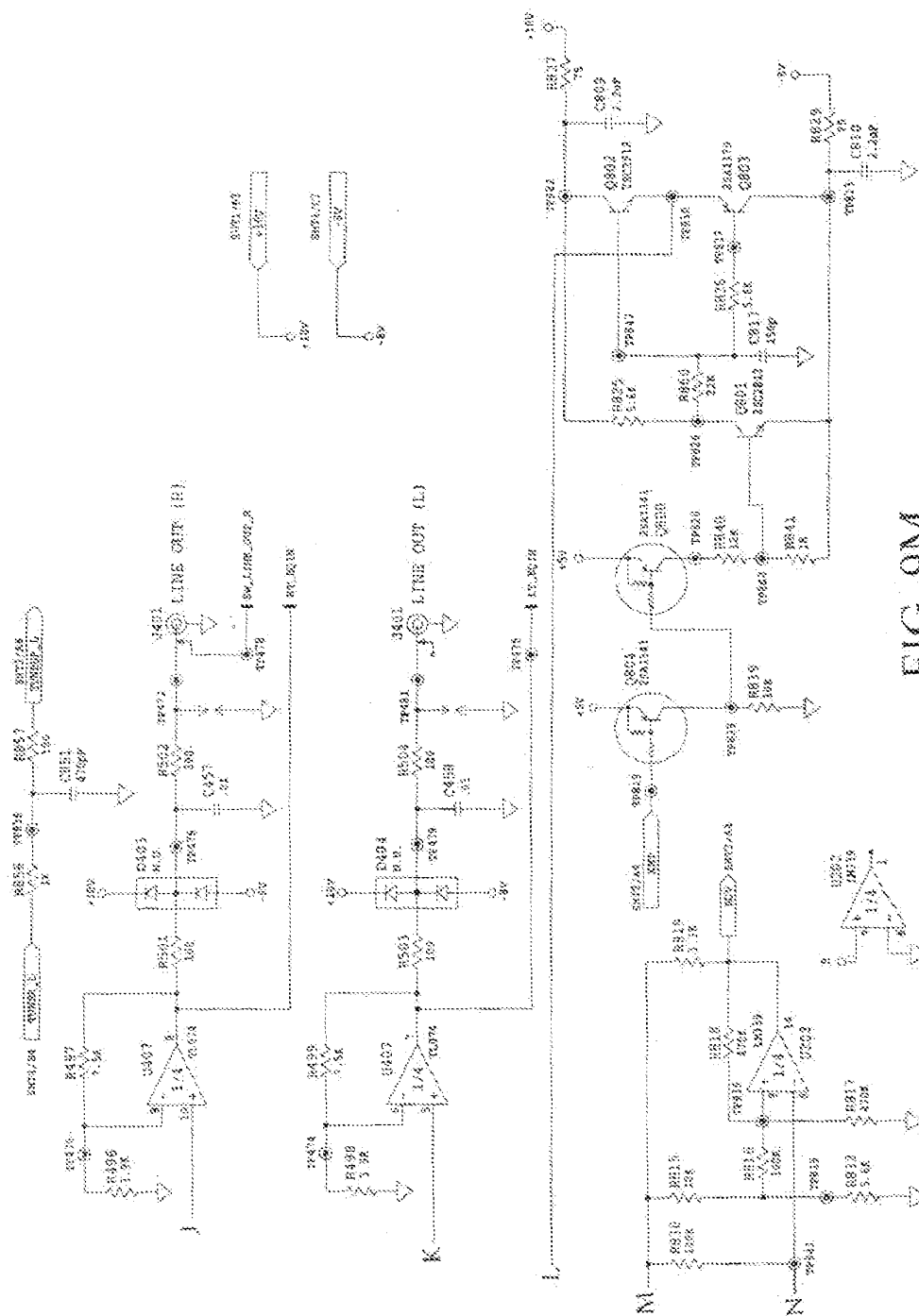


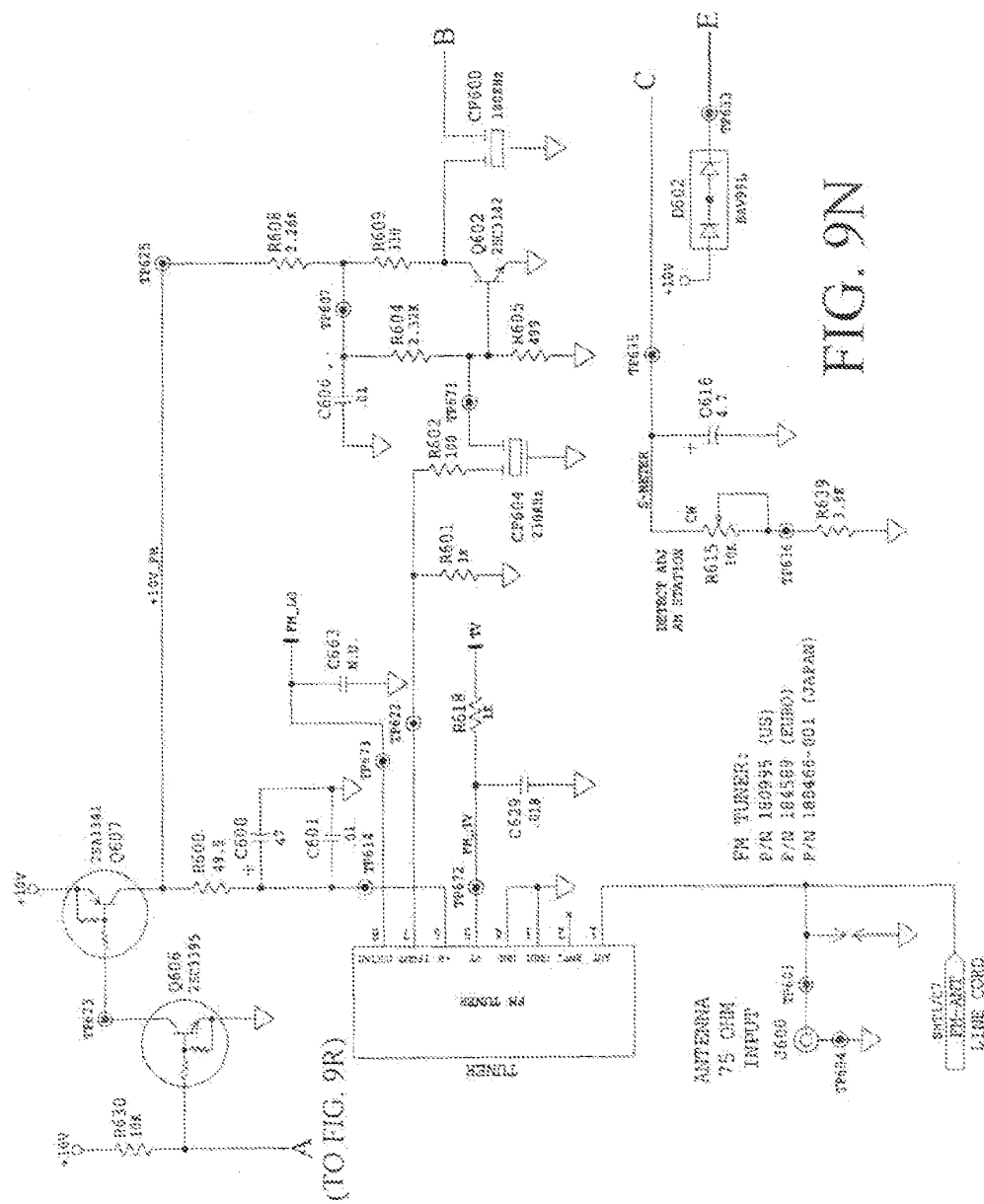
FIG. 9L

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U.S. Patent

Oct. 2, 2007

Sheet 24 of 33

US 7,277,765 B1

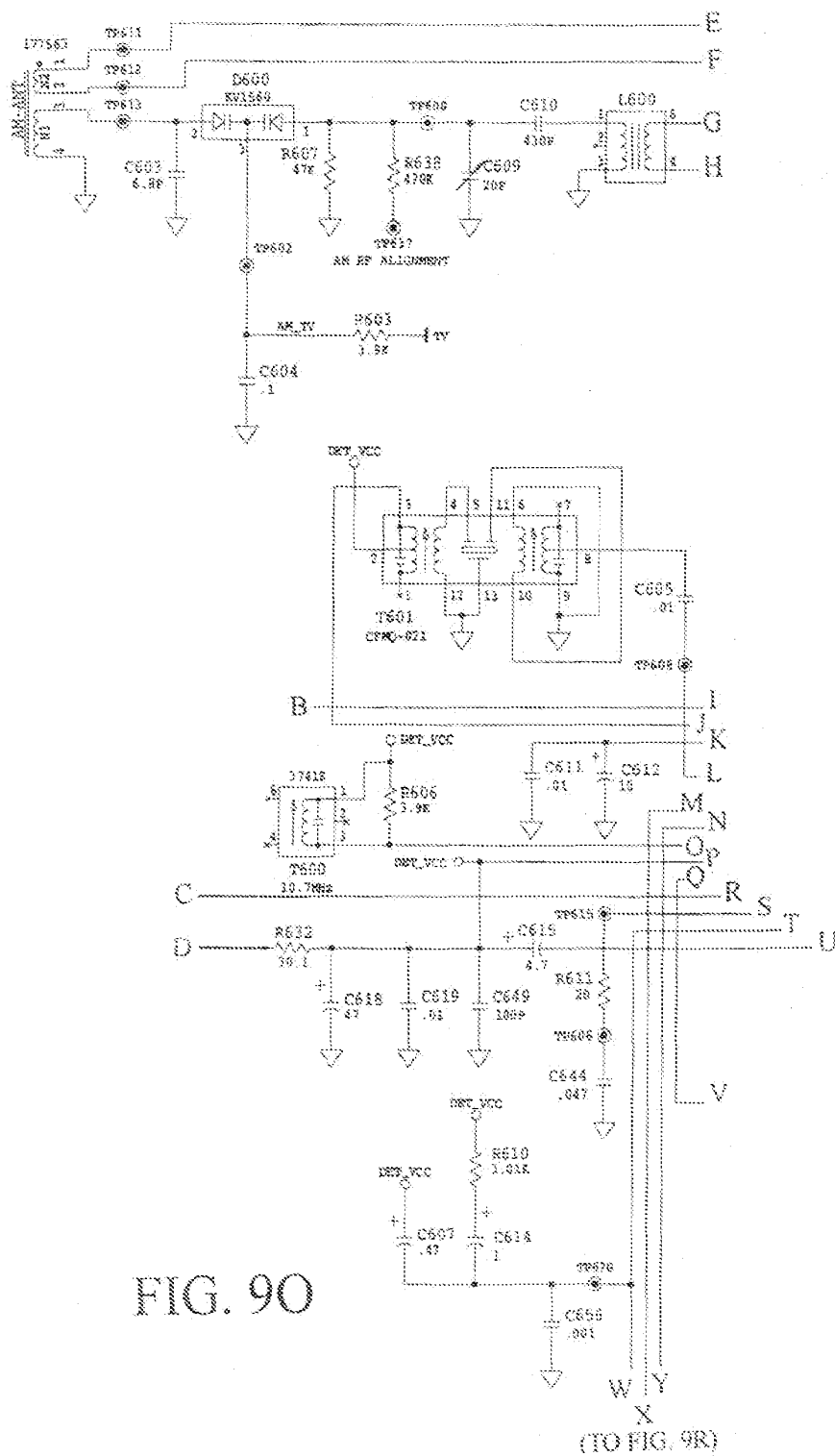


FIG. 90

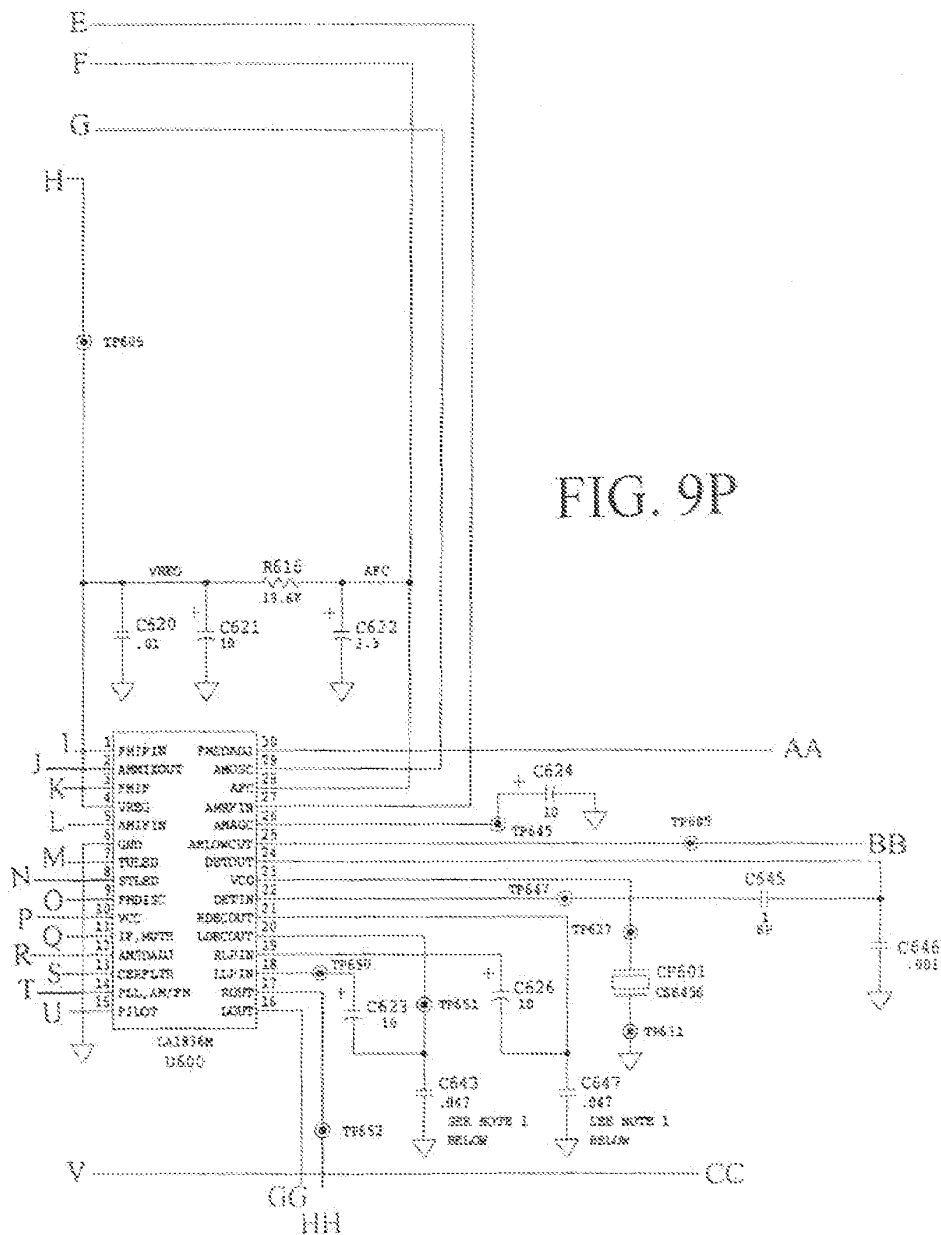
(TO FIG. 9R)

U.S. Patent

Oct. 2, 2007

Sheet 25 of 33

US 7,277,765 B1



U.S. Patent

Oct. 2, 2007

Sheet 26 of 33

US 7,277,765 B1

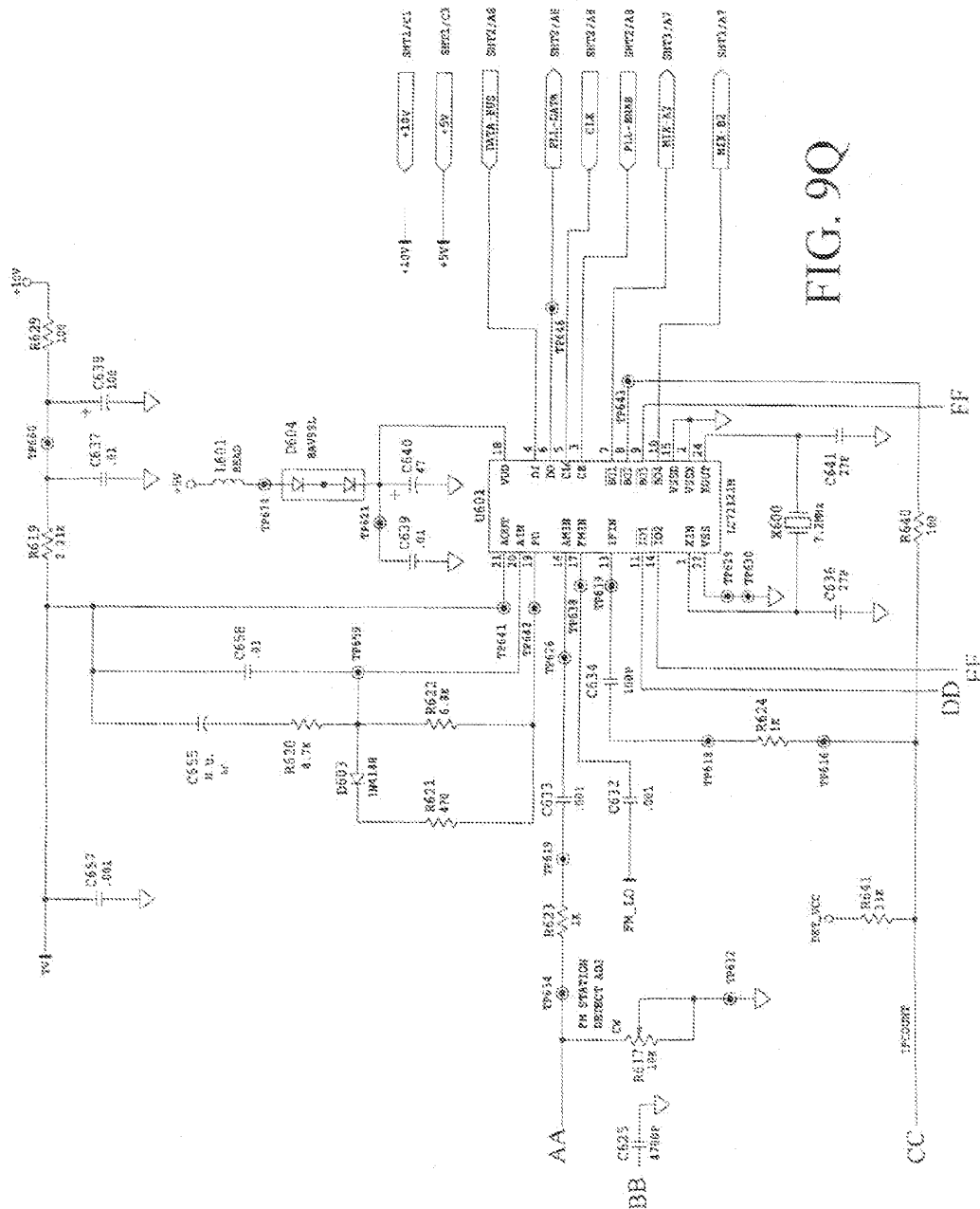
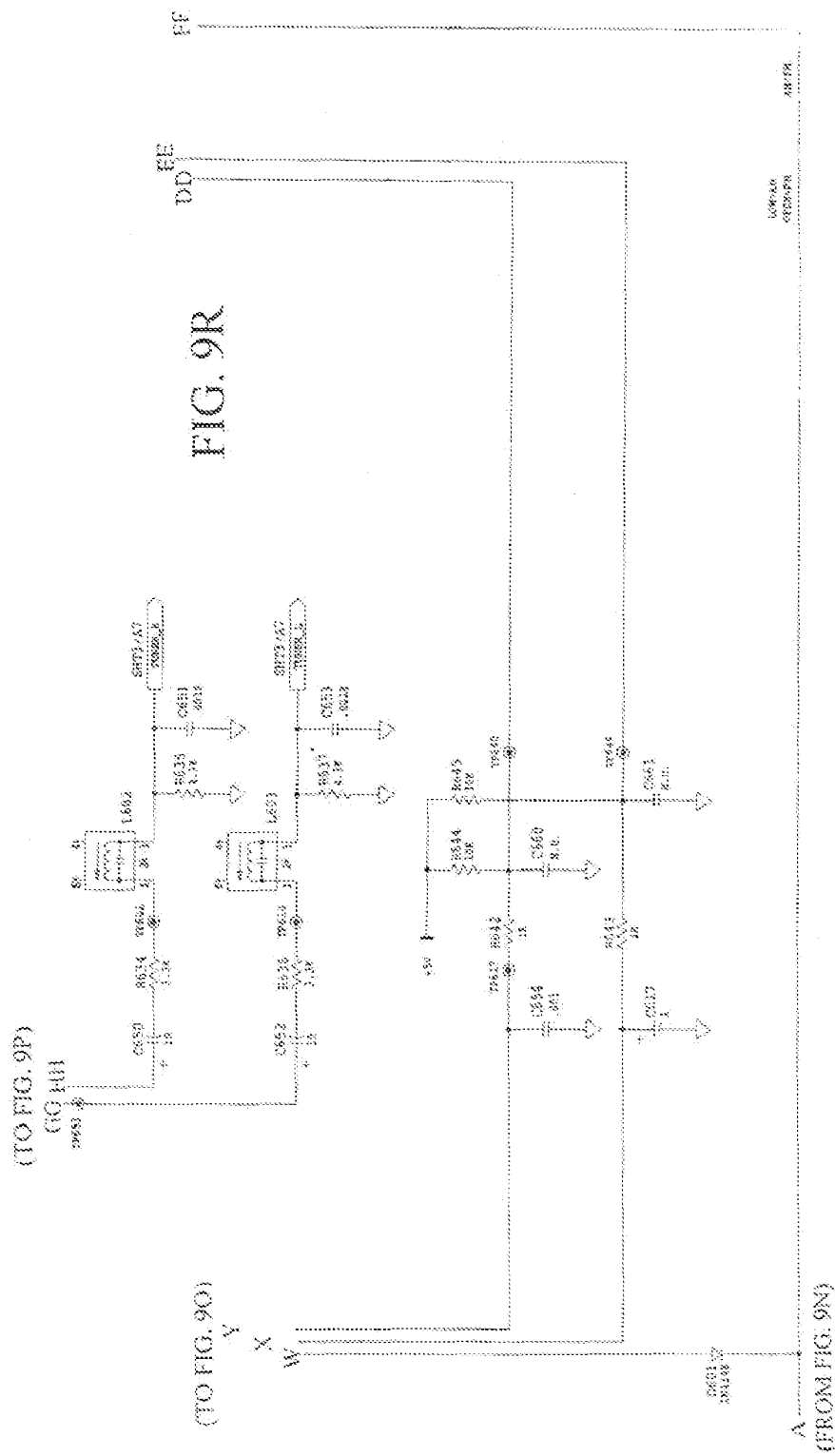
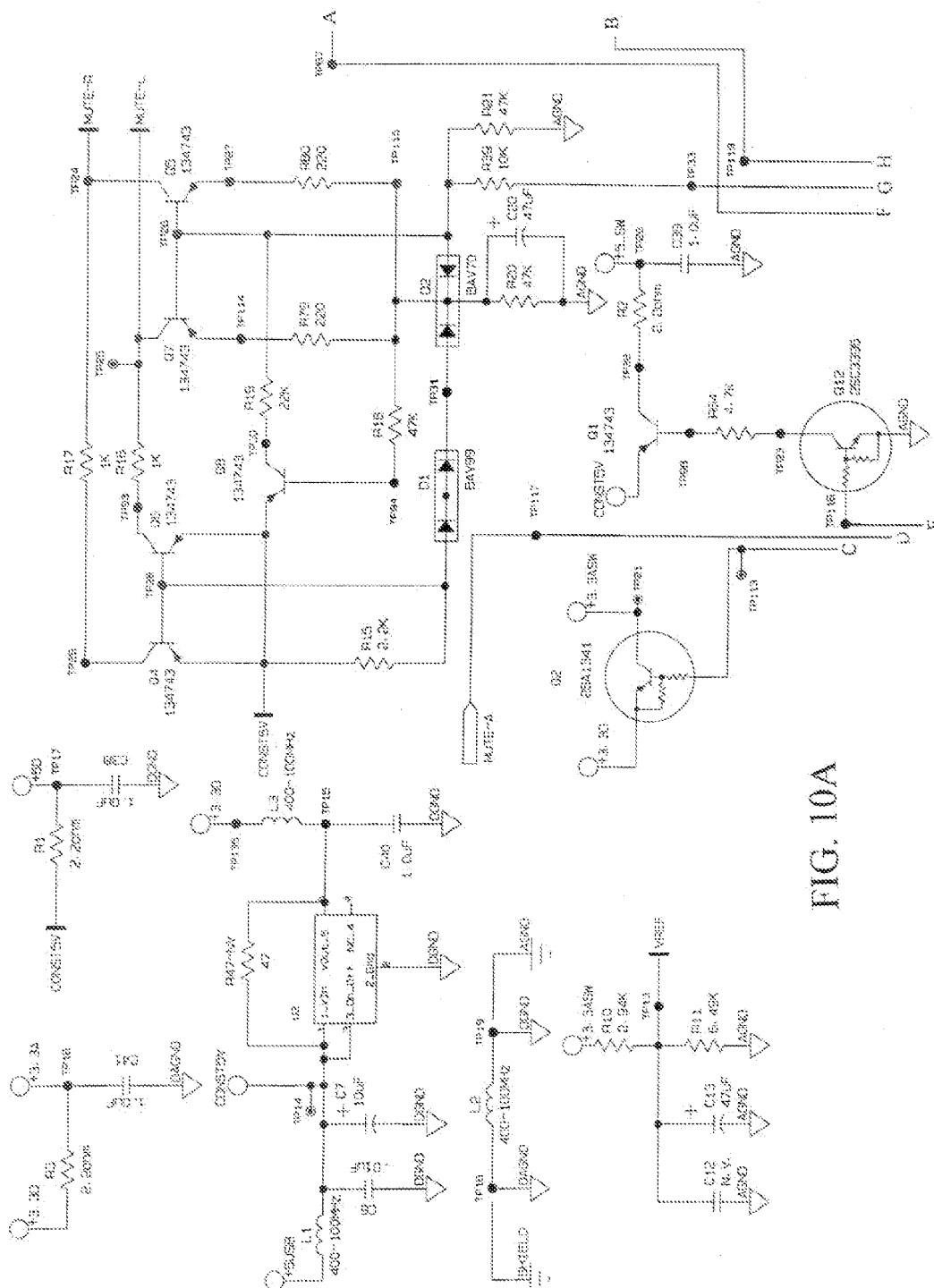


FIG. 9Q



NOTE 1: FOR EUROPE AND JAPAN VERSIONS; .641, .647 = .0139F



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U.S. Patent

Oct. 2, 2007

Sheet 29 of 33

US 7,277,765 B1

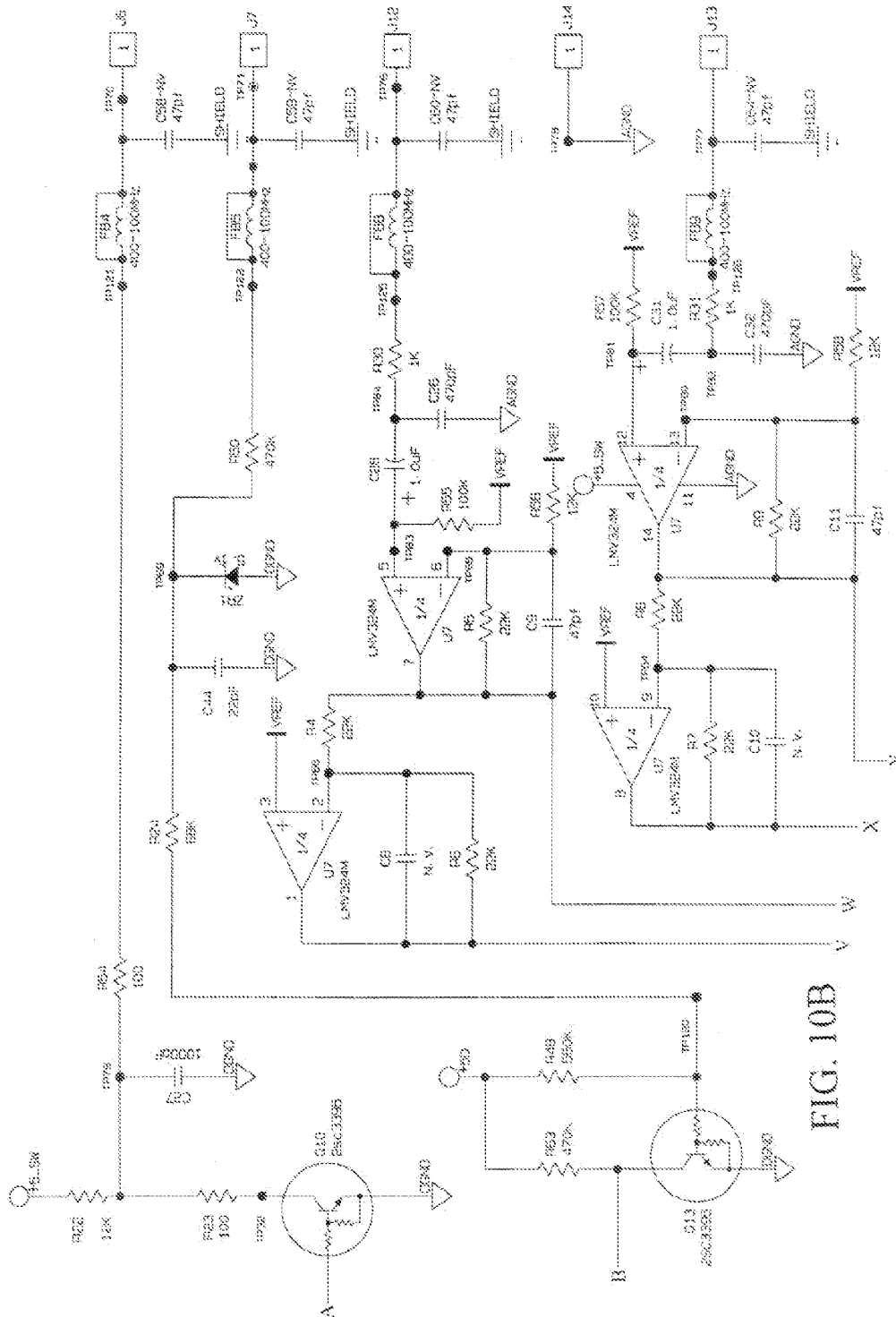


FIG. 10B

U.S. Patent

Oct. 2, 2007

Sheet 30 of 33

US 7,277,765 B1

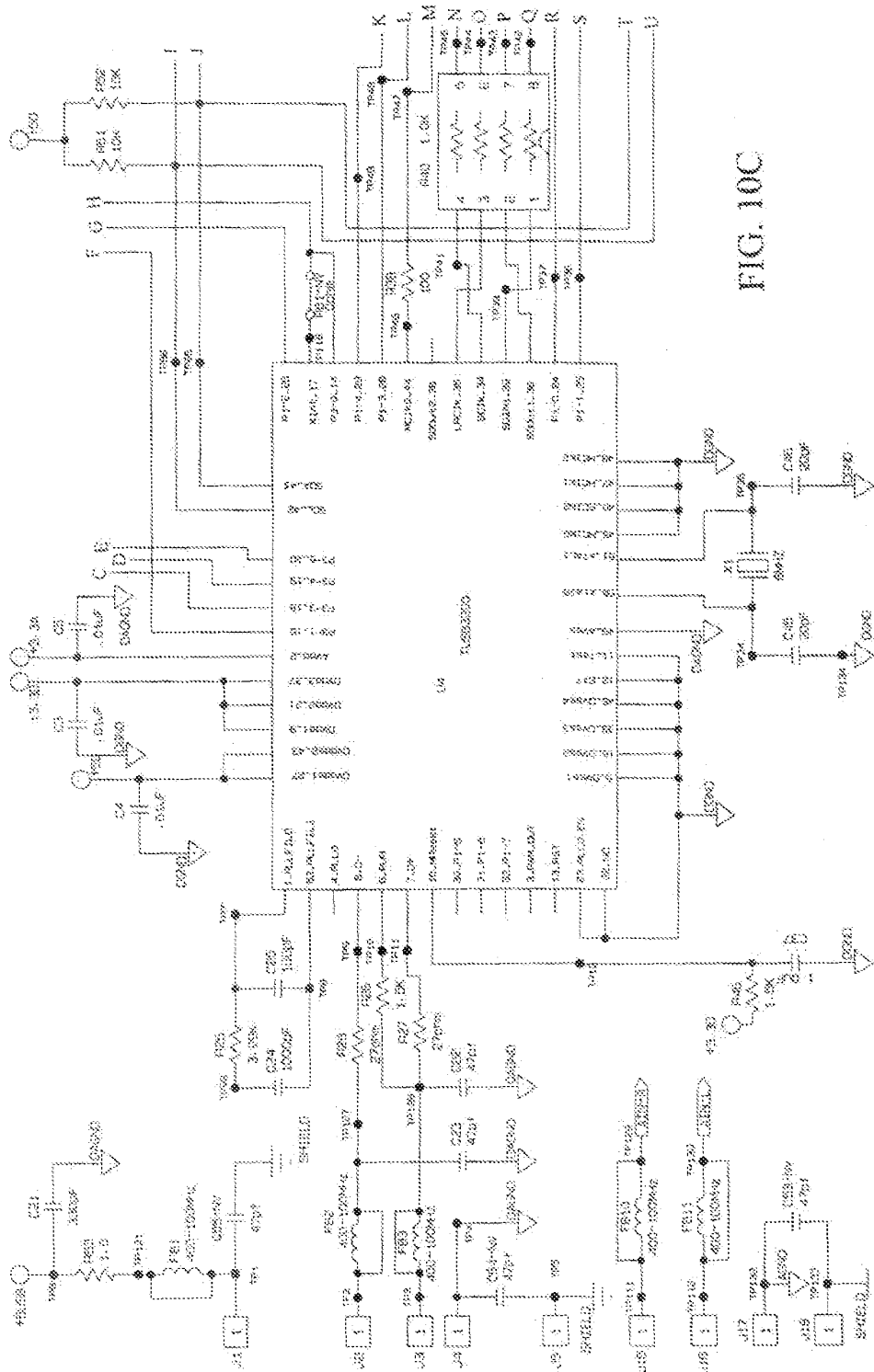


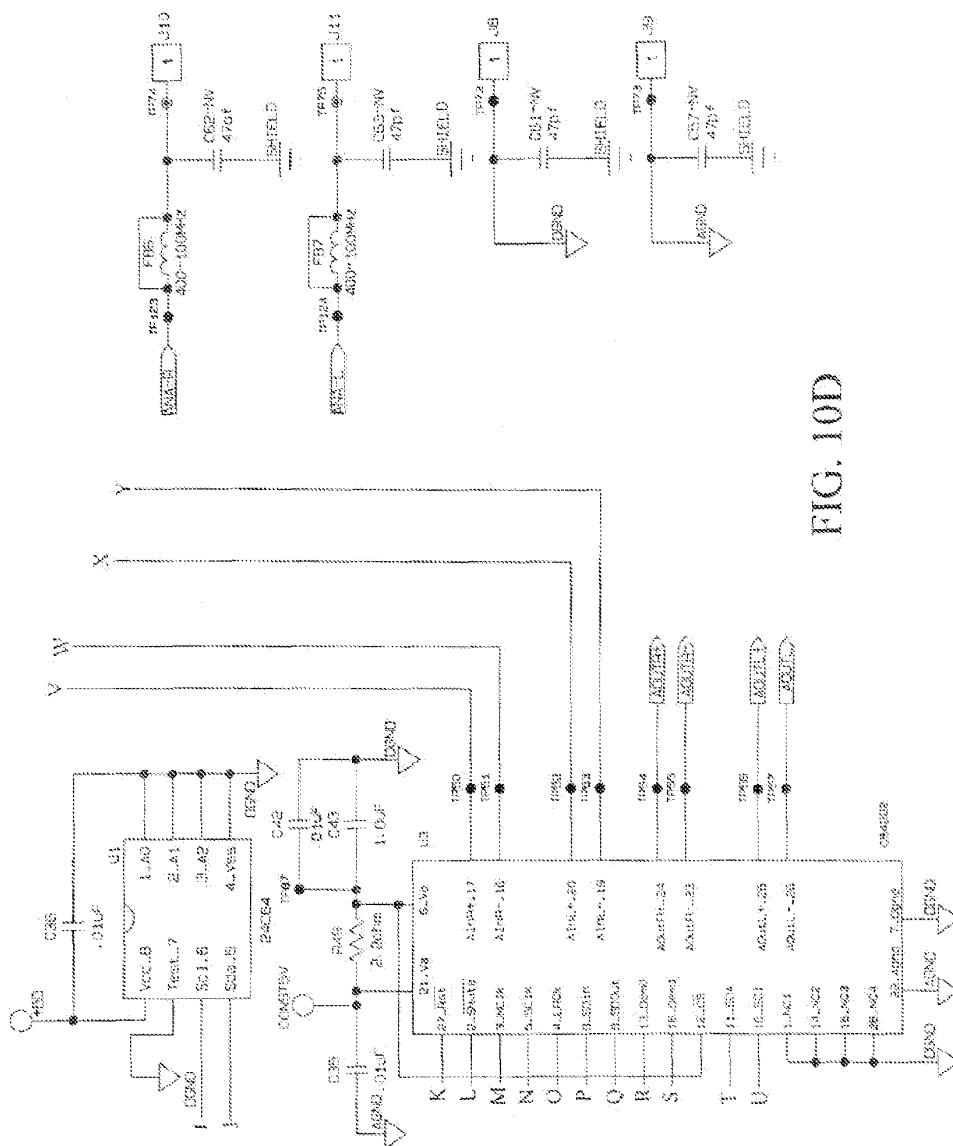
FIG. 10C

## U.S. Patent

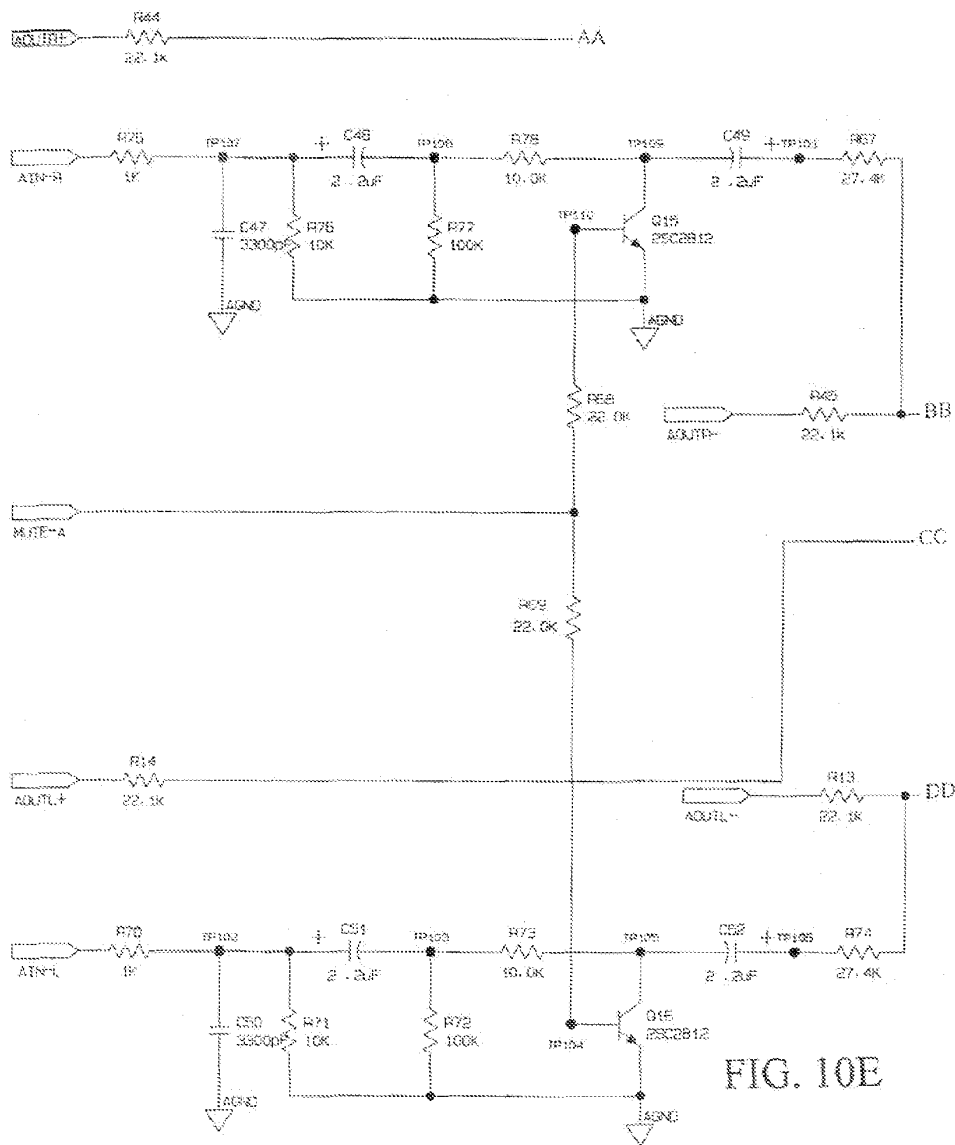
**Oct. 2, 2007**

Sheet 31 of 33

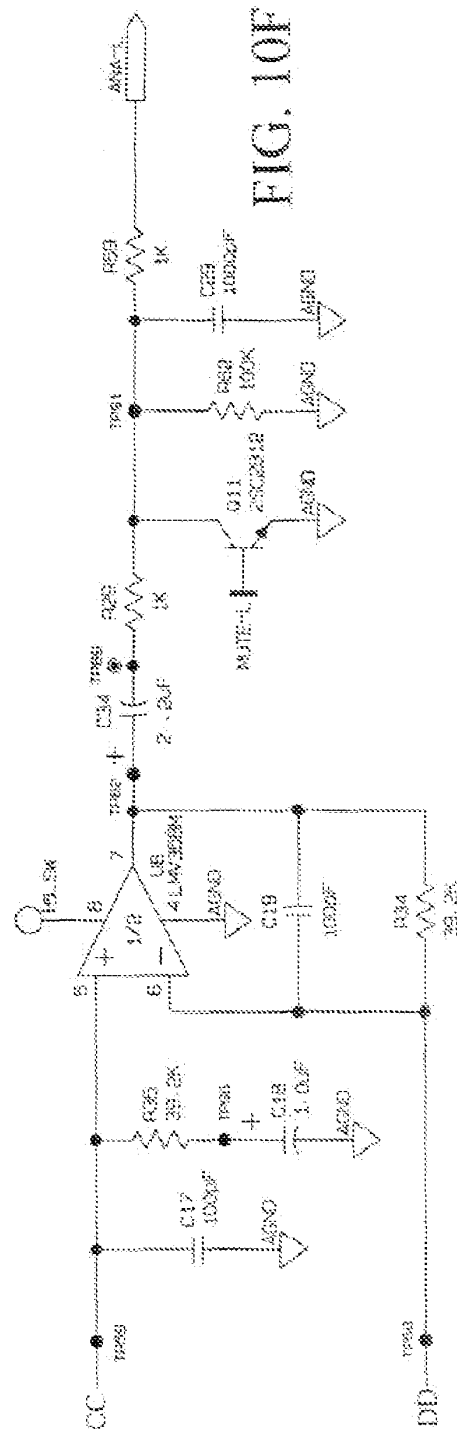
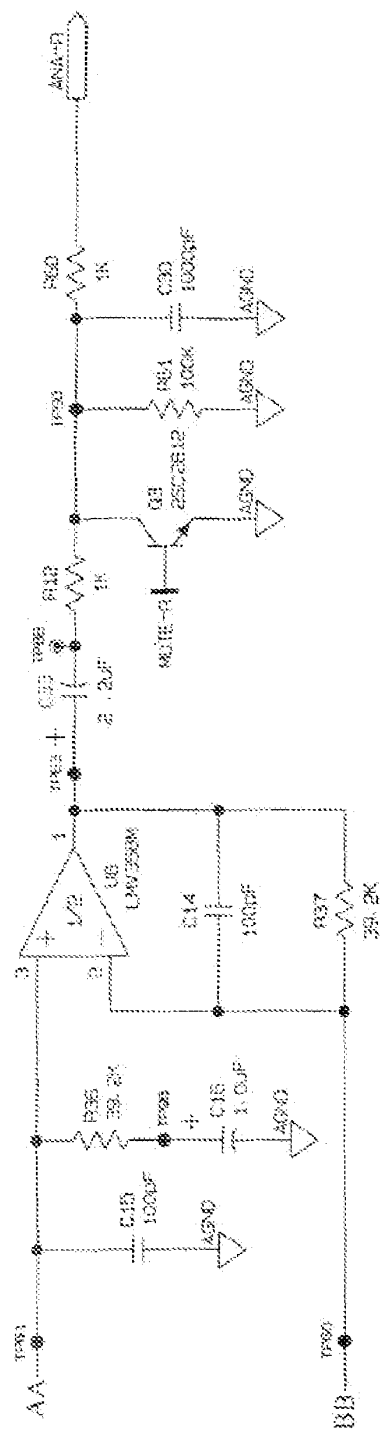
US 7,277,765 B1



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SECRET

US 7,277,765 B1

1

**INTERACTIVE SOUND REPRODUCING****CROSS-REFERENCE TO RELATED APPLICATIONS**

Not applicable.

**STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT**

Not applicable.

**BACKGROUND OF THE INVENTION**

The invention relates to interactive sound reproducing and more particularly to sound reproducing from computer compact disk (CD) drives, network radio stations, broadcast radio stations, and digitally encoded computer files.

It is an important object of the invention to provide improved interactive sound reproducing.

**BRIEF SUMMARY OF THE INVENTION**

According to the invention, an audio system includes a sound reproduction device for producing audible sound from audio signals. The sound reproduction device includes a radio tuner, a powered speaker and a connector for connecting the sound reproduction device with a computer. The computer provides audio signals from a plurality of sources. The sources include a computer CD player, digitally encoded computer files stored on the computer, and a computer network connected to the computer. The sound reproduction device includes control buttons for controlling at least one of the computer CD player, the digitally encoded computer files and the computer network.

In another aspect of the invention, an audio system includes a sound reproduction device for producing audible sound from audio signals. The sound reproduction device includes an enclosure, enclosing a radio tuner and a powered speaker. The audio system further includes a connector for connecting the sound reproduction device with a computer, the computer for providing audio signals from a computer CD player, from digitally encoded computer files, and from a computer network.

In another aspect of the invention, an audio system includes a sound reproduction device for reproducing audible sound from audio signals, a computer coupled to the sound reproduction device for receiving the audio signals from a computer network, the audio signals being transmitted from an alternatively selectable plurality of network addresses, and a remote control device, for communicating commands to the sound reproduction device, the remote control device comprising a plurality of indicator buttons. An indicating one of the indicator buttons causes the computer to select a preassigned one of the network addresses.

In another aspect of the invention, an audio system includes a computer system and a sound reproduction system for reproducing audible sound from audio signals. The audio signals come from a plurality of selectable sources. A method for switching the sound reproduction system from an unpowered state to a powered state includes transmitting a control signal from the sound reproduction system to the computer system. If the computer system responds to the control signal, the method determining by the sound reproduction device that the computer system is in a responsive state and

2

If the computer system does not respond to the control signal, determining by the sound reproduction device that the computer system is in an unresponsive state.

In another aspect of the invention, a radio receiver has a number *n* of preset indicators. A method for assigning broadcast frequencies to individual preset indicators includes determining the location of the radio receiver and scanning the frequency spectrum to determine the strongest signals.

In another aspect of the invention, a sound system includes a sound reproduction device coupled to a computer system and a remote control device, for transmitting encoded control commands to the sound reproduction device. A method for decoding the commands includes receiving, by the sound reproduction device, one of the encoded control commands, and decoding, by the sound reproduction device, the one received control command, and executing, by the sound reproduction device, the one received control command. In the event that the one received control command is not decodable or is not executable by the sound reproduction device, the method includes transmitting the encoded control command to the computer system.

In another aspect of the invention, an audio system includes a sound reproduction device for reproducing audible sound from audio signals from a plurality of sources. The sources including a radio tuner and at least one of a CD containing a plurality of individually indicatable tracks, a plurality of individually indicatable network addresses, and a plurality of individually indicatable digitally encoded files stored on a digital storage device. The audio system includes a source selector for selecting from the plurality of sources, a source of audio signals to be reproduced by the sound reproduction device and a control signal input device. If the selected source is the radio tuner, an activation of the control signal input device changes the tuning frequency of the radio tuner; if the selected source is the CD, an activation of the control signal input device changes the indicated CD track or play position within a track; and if the selected source is the selectable network addresses, an activation of the control signal device changes the indicated network address.

In another aspect of the invention, a method of operating an audio system adapted to reproduce sound from a plurality of digitally encoded files which contain identifying characteristics includes assigning a value of one of the identifying characteristics to a preset indicator; on the indicating of the preset indicator, searching the plurality of files for the value of the one identifying characteristic; and selecting for reproduction the digitally encoded files having the value.

In still another aspect of the invention, a method for selecting from a plurality of audio signal sources having identifying characteristics, a single audio signal source, includes specifying a value of one of the identifying characteristics; determining, by a computer, which of the audio signal sources have the value for the one characteristic; and selecting a single audio source from the plurality of audio signal sources.

According to another aspect of the invention, a method gives multiple sets of values to a single set of presets being used with a single source. The method changes the set of values by clicking on a graphic, such as a right or left arrow on the screen display, to bring up a new set of values for the presets. Typically, any one of the set of values is selectable by either clicking with the pointing device on the appropriate preset on the screen, pressing the selected preset on the remote, or pressing the preset on the radio.

## US 7,277,765 B1

3

Other features, objects, and advantages will become apparent from the following detailed description, which refers to the following drawings in which:

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a first configuration of a networked sound system according to the invention;

FIG. 2 is a block diagram of a second configuration of a networked sound system according to the invention;

FIG. 3 is a block diagram of the interface unit of FIGS. 1 and 2;

FIG. 4 is a diagram helpful in explaining the logical database relationships of recorded units and assemblages of recorded units;

FIG. 5 is a sound reproduction device control panel according to the invention;

FIG. 6 is a representation of an interface screen on a computer display in accordance with the invention;

FIG. 7 is a flow diagram for assigning broadcast radio frequencies to the preset buttons according to the invention;

FIG. 8 shows the buttons on the remote control device;

FIGS. 9A-9R are schematic circuit diagrams of circuitry in a radio that implement elements 12, 14 and 16 of the system of FIG. 2; and

FIG. 10A-10F represent an implementation of the interface unit 54 of FIG. 2.

## DETAILED DESCRIPTION OF THE INVENTION

With reference now to the drawings and more particularly to FIG. 1, there is shown a first configuration of a networked sound system according to the invention. Sound reproduction device 10 includes an AM/FM tuner 12, audio signal processing circuitry 14, control electronics circuitry 16 for controlling the tuner and signal processing circuitry, a remote control device 17 for communicating commands to control electronics circuitry 16, and an electroacoustical transducer 18. An auxiliary (hereinafter "aux") input 13 typically implemented as a signal jack permits the sound reproduction device to receive audio signals from outside sources, such as portable CD players. Computer system (PC) 20 includes a bus 22 which interconnects various computer system components and carries data and control signals between them. Hardware components may include CPU 24, RAM 26, CD player 28, a mass storage device, such as a hard disk 30, a network interface card 32, and a sound card 33. Computer system 20 also includes a number of external connectors for connecting bus 22 with various external devices. A first external connector 34 connects to an external display 36. A second external connector 38 connects to an external input device such as a mouse 40. A third external connector 42 connects to a keyboard 44. A fourth external connector 46 connects network interface card 32 to a local or wide area network for transmitting to and receiving signals from remote devices that are connected to the local or wide area network. A fifth external connector 43 connects to external mass storage device 45. Stereo jack 48 connects sound card 33 to radio audio signal processing circuitry 14 through analog input terminal 49. Audio system control connector 50 connects bus 22 to control electronics circuitry 16 through digital input terminal 51.

Referring now to FIG. 2, there is shown a second configuration of a networked audio system according to the invention. The elements of FIG. 2 are the same as the elements of FIG. 1, with some exceptions. Sound card 33 of

4

FIG. 1 is not needed in this configuration. Stereo jack 48 and the audio system control connector 50 of FIG. 1 are replaced by a bus interface connector 52, which connects to an interface unit 54. The interface unit 54 connects to audio signal processing circuitry 14 through analog terminal 49 and to control electronics circuitry 16 through digital terminal 51. Interface unit 54 will be described in more detail in connection with a subsequent figure.

A networked audio system which contains both the powered speaker and the radio tuner in a single enclosure is advantageous over conventional audio systems which house the speakers and radio tuner in separate enclosures, because the system can then be configured to occupy less space in a work area.

Referring to FIG. 3, there is shown interface unit 54 in more detail. Signal line 56 from interface connector 52 is connected to logic circuitry 58. Logic circuitry 58 is coupled to D/A converter 60 which is connected to analog terminal 49 by analog signal line 62. Analog terminal 49 is in turn connected to audio signal processing circuitry 14. Logic circuitry 58 is connected to digital terminal 51 by digital signal line 64. Digital terminal 51 is in turn connected to control electronics circuitry 16. If bi-directional flow of analog signals is desired, a second analog signal path is provided. The second analog signal path includes a signal line between audio signal processing circuitry 14 and a second analog terminal 66; a second analog signal line 68 connecting second analog terminal 66 and an A/D converter 70; and a signal line connecting A/D converter 70 and logic circuitry 58.

In operation, logic circuitry 58 determines if transmissions on signal line 56 from bus 22 are intended for sound reproduction device 10. If signals on bus 22 are intended for sound reproduction device 10, logic circuitry 58 determines whether the signals are control signals or audio information. If the signals are control signals, logic circuitry 58 transmits signals to digital terminal 51 over digital signal line 64. If signals are audio information, logic circuitry 58 transmits signals to D/A converter 60 which converts the digital signal to an analog audio signal. Analog audio signal is then transmitted over analog signal line 62 to analog terminal 49 and then to audio signal processing circuitry 14. The digital signal path including control circuitry 16, digital terminal 51, digital signal line 64, logic circuitry 58 signal line 56, and interface connector 52 is constructed and arranged to transmit signals bidirectionally, so that control signals originating at control circuitry 16 can be transmitted to computer bus 22 for processing by CPU 24. If bidirectional flow of analog circuitry is desired, analog signals may be transmitted from audio signal processing circuitry 14 to second analog terminal 66, and to A/D converter 70, where it is converted to a digital signal that is then transmitted to logic circuitry 58.

In one implementation, sound reproduction device 10 is a Wave® radio equipped with an appropriate communications ports, available from the Bose Corporation of Framingham, Mass. Computer system 20 may be a conventional multimedia personal computer.

There are typically three implementation arrangements for interface unit 54. One alternative is to implement interface unit 54 as a module in computer system 10. In this arrangement, interface unit 54 is implemented as a circuit board that connects internally to bus 22 (so that interface connector 52 is internal to the computer), and is physically connected to an expansion slot in the computer), signal lines 62, 64, and 68 are implemented as cables, and digital

## US 7,277,765 B1

5

terminal 51, analog terminal 49 (and second analog terminal 66, if present) are external ports for the sound reproduction device 10.

A second alternative is to implement interface unit 54 as an intermediate, separate unit, typically integrated with cables which implement signal lines 62, 64, 68, and 56. In this arrangement, interface connector 52 is an external computer port, and digital terminal 51, analog terminal 49 (and second analog terminal 66, if present) are external ports for the sound reproduction device 10.

A third alternative is to implement interface unit 54 as a module, such as a circuit board, in the sound reproduction device 10. In this arrangement, sound reproduction device 10 has an external port to accommodate a cable that implements signal line 56, and the remaining signal lines and terminals are internal to sound reproduction device 10.

A networked sound system according to the invention may have a number of operating modes. In a first mode, sound reproduction device 10 operates as a standalone sound reproduction device (hereinafter "standalone mode"), similar to a conventional radio or hi-fi receiver. Operating in this mode, sound reproduction device operates independently of computer system 20, and even operates if computer system 20 is not running. In a second operating mode (hereinafter "sound effects mode"), sound reproduction device 10 operates as conventional computer speakers, reproducing sounds that are incidental to programs running on computer system 20. Examples may be sound effects in computer games, audible alarms and warnings, indicating, for example, that the computer system has received electronic mail. In a third operating mode (hereinafter "audio system mode") sound reproduction device 10 operates as a processor and reproducer of audio signals from a variety of sources, including networked sources and components of the computer system 20.

When the system is operating in the sound effects mode and the audio systems mode, the operation of the components of the system is controlled by a software program running on computer system 20. For efficient use of computer resources, the software program may be divided into two program modules, one of which provides communications between components of computer system 20 and sound reproduction device 10, and a second which accesses sound sources as described below. Additionally, the first program module can contain instructions such that it automatically activates the second program module if it detects a communication from sound reproduction device 10 to computer system 20 that requires that the second module be running.

Operating in standalone mode, sound reproduction device 10 is controlled as, and operates as a standard radio or receiver. On/off, tuning, and volume control are all either entered by control buttons or dials that are connected electronically to control electronics circuitry 16, or by remote control device 17.

Operating in sound effects mode, sound reproduction device 10 is controlled as, and operates as, standard amplified computer speakers having an on/off switch and volume control.

Operating in audio systems mode, sound reproduction device 10 reproduces sound from tuner 12, aux input 13, digital audio signals stored in RAM 26, hard disk 30, or external mass storage device 45; audio signals received from sources connected to the local or wide area network connected to network interface 32; and other sources such as CD player 28 (which can be a component of computer system 20 as shown, or which can be a separate component, connected directly to sound reproduction device 10). The source or

6

sources of the audio signals is controlled by a computer program running on computer system 20.

If sound reproduction device 10 is in the "off" state, and is turned "on" either by pressing the "on" or "power" button or a button or indicator performing an equivalent function, or by pressing the corresponding button on remote control device 17, control electronics circuitry 16 detects whether computer 20 is connected, and if connected, in the "on" or "off" state. If computer 20 is not connected or is in the "off" state, sound reproduction device 10 operates in standalone mode, and sound reproduction device begins reproducing audio signals from the last internal audio signal source (in one implementation, either AM or FM signals from AM/FM tuner 12, or signals from aux input 13). If computer 20 is in the "on" position and the second program module (as described above in the discussion of "Operating Modes") is not running, the first program module activates the second program module, and the sound reproduction device begins producing signals from the last audio signal source, as described above in the discussion of "audio systems mode." If computer 20 is in the "on" position and the second program module is running, the sound reproduction device begins producing signals from the last audio signal source.

Recorded on hard disk 30 or external mass storage 45 may be information about typically either AM broadcast, FM broadcast, broadcast radio stations available to the reproduction device 10 through tuner 12. Typically, availability is determined by a combination of proximity to and direction to the broadcast site, directionality and power of the broadcast signal, obstructions (such as tall buildings and mountains), and competing signals, especially those in nearby frequency bands. The list of radio stations available to the reproduction device may be assembled in a number of ways. In a simple form, the user may manually tune a radio station and manually enter into the data base identifying information about the radio station. In more sophisticated forms, the reproduction device may automatically scan the broadcast frequency spectrum and assemble a list of available radio stations by noting the frequency and by measuring signal strength of received signals, or a suggested list of radio stations, based on location information such as zip code, or can be compiled by a resource (such as the vendor of the reproduction device or a commercial information assembler). Information about each radio station can also be collected and stored. Such information can include: station broadcast frequency; station call letters and/or other identifiers; station format (news, type of music, location, and others).

Information about radio stations that are accessible over the local or wide area network (hereinafter web radio stations) is also acquired and stored. This information may be acquired through search engines, by commercially available listings from suppliers such as vTuner (vTuner.com), or assembled by the user. Information about web radio stations typically include a station identifier, a network address, a category (e.g. news, rock, jazz, sports, classical), and a location of origination.

The information about broadcast radio stations and web radio stations, respectively, may be organized and sorted based on any of the information types mentioned above.

In addition to reproducing sound, a networked sound system according to the invention can record, on hard disk 30 or external mass storage device 45. Recording can be done simultaneously with sound reproduction, or in the "background." Sound is recorded in units, and the units are identified and information about the units are recorded in a data base. For example, a typical recording unit is a track on

US 7,277,765 B1

7

a CD. The information about each unit (track) may include title, composer, artist, category (e.g. classical, rock, blues). The information may be obtained automatically or by user intervention from commercially available internet sources and/or may be entered or edited by the user. Additionally, for other types of recording units, the information may be of other types (such as for radio broadcasts a station and a time interval; for athletic events the date and participating teams; for cultural events the date, performer, composer; and others). For convenience, recorded units and assemblages of recorded units are referred to as "music files" even though the recorded units are not necessarily recordings of music.

Referring now to FIG. 4, there is shown a diagram that will be used to discuss the logical relationships of recorded units and assemblages of recorded units. Recorded units **110-1** through **110-n** each contain data representing the recorded sound and information about the recorded sound. Information could include the artist, the composer, and the type of music. A first type of assemblage of recorded units is an "album" represented here as items **112a**, **112b**, **112c**. Albums **112a**, **112b**, and **112c** may also have associated with them information similar to the information about the recorded units, such as artist, composer, and type of music. Albums may include recorded units that have different composers, artists, or type of music.

A second type of assemblage includes recorded units with common identifying characteristics, sometimes referred to as common "metadata" values. "Metadata" values are typically included in file header information of music files in many popular music file formats. Metadata values may include the artist, the composer, the type of music, and others. For example, element **114** represents an assemblage that includes all albums (**112a** and **112b**) that include a track performed by a predetermined artist and all tracks performed by that artist. Album **112b** is included in the assemblage, even though it may include only one track **110-7** performed by that artist and even though that album may contain tracks that are performed by other artists. In other embodiments, the assemblage may be set up such that only tracks performed by the artist are included in the assemblage. Similarly, assemblage **114** may represent an assemblage of all recorded units written by a common composer or containing a common type of music.

For example, if an assemblage contains music files having a common composer metadata value of "Beethoven", each time the assemblage is requested, a computer database program may search all the music files for the metadata value of "Beethoven" as the composer. In this manner, each time a new music file is recorded with "Beethoven" as the composer, it is automatically added to the assemblage. In other words, this second type of assemblage may be said to be dynamically constructed.

A third type of assemblage is represented by playlist **116**. In this example, playlist **116** includes artist assemblage **114**, album **112c**, and track **110-n**.

Information about recorded units, playlists and other assemblages, broadcast radio stations, computer network accessible radio stations is stored in a data base stored in RAM **26** mass storage device **30** or external mass storage device **45**. In one implementation, a record of the data base may correspond to a broadcast radio station, a web radio station, or a recorded unit. The fields of the records representing broadcast radio stations may contain information such as call letters, broadcast frequency, station format, or signal strength. The fields of record representing computer network accessible radio stations may include a identifiers, network addresses, locations, and station formats. The fields

8

of record representing recorded units may include the meta-data values as described above.

Referring to FIG. 5, there is shown a control panel from sound reproduction device **10**. Preset buttons **72a-72f** each have a broadcast frequency associated with it. When that button is depressed by the user, the control electronics circuitry causes the control electronics circuitry (of FIG. 1) to cause the tuner **12** to tune to the frequency associated with that preset button.

In addition to associating broadcast frequencies to the identifiers, a networked sound system according to the invention can assign other entities to the preset button. Other entities can include web radio network addresses, playlists; or recorded units, such as individual CD tracks, or other assemblages of recorded unit as described above.

In a networked sound system according to the invention, there are at least three ways of activating the preset buttons. The buttons of FIG. 5 can be depressed; corresponding buttons on remote control device **17** can be depressed; or a graphical representation of a corresponding preset button that is caused to appear on external display **36** by a computer program may be selected by operation of mouse **40**. Hereinafter, the term "preset indicator" will be used to denote the preset buttons on the control panel (FIG. 5), the preset buttons on the remote control device (FIG. 8), or the graphical representation of the preset buttons on the display (FIG. 6). In one embodiment, there is a one to one correspondence between the preset buttons on the control panel of the sound reproduction device, the preset buttons on remote control device **17**, and the graphical representation of preset buttons appearing on external display **36**. Activating a preset button on control panel of FIG. 5, the corresponding preset button on remote control device **17**, or the graphical representation of the preset button on external display **36** causes the same entity to be selected. For each different source, a different entity may be assigned to each preset button, as will be described below. There may also be multiple sets of values to a single set of presets being used with a single source as discussed above. For example, there may be multiple sets of FM and/or AM radio stations.

A common user interface screen is caused to appear on external display, with some of the portions of the screen having different identifying legends. Referring to FIG. 6, there is shown a user interface screen. Source selection region **78** has graphical regions enabling the user to select the audio signal source. In this implementation, a CD, AM broadcast radio, FM broadcast radio, Web Radio, and Music Files (e.g. recorded units) can be selected. In current selection region **88**, information about the selection currently displayed is shown. In available selections region **90**, information about the available selections is shown. In preset section **92**, six graphical figures, corresponding to the six preset buttons shown in FIG. 6 are displayed. "Tune" graphical FIG. **79** are discussed below in the discussion of FIG. 8.

The information displayed in the available selections region **90** may be ordered based on any of the metadata values. For example, the list of FM stations of FIG. 6 can be ordered in by station ID as shown, or could be ordered by broadcast frequency, or by category (station format). Ordering the list of stations in different manners enables the user to more easily select the music to be reproduced from the list of available selections, especially if the number of available selections is large. For example, if the user has selected "web radio" as the source, there may be hundreds of entries displayed in the available selections region. If the user wants to listen to a particular type of music, for example jazz, the

US 7,277,765 B1

9

user can order the list of available web radio stations by station format, and scroll through the list and listen to web radio stations until a suitable station is found. Scrolling through the list can be done by using the arrow keys on the computer keyboard, the “tuning” buttons **128** (FIG. 5) on the control panel, or the corresponding buttons **147** (FIG. 8) on the remote control device.

The entities that can be assigned to the preset buttons are dependent on the audio source selected by activating the appropriate graphical figure in the source selection region **78**. If the CD source has been activated, the preset buttons are not active. If the AM broadcast or FM broadcast graphical figure have been activated, broadcast frequencies in the AM and FM broadcast bands, respectively, can be assigned to the preset buttons. For convenience and ease of identification, the call letters may also be displayed on the graphical representation. If the web radio audio source has been activated, a URL of a web radio website are assigned to the preset buttons. For ease of identification, the name, or other identification about the website is typically displayed on the preset buttons.

If the music files audio source has been selected, any assemblage, as discussed above, of recorded units can be assigned to a preset buttons. For combinations of recorded units, a play mode may also be assigned to the preset button. “Play modes” may include sequential, in which the recorded units are played in the order they appear in the database (typically, for example, for an album, this means in the order the individual “cuts” appear on the album), “shuffle” or “random,” in which the recorded units are played in a random order, and “repeat” either single cuts or a sequence of cuts.

In one embodiment, initial preset assignment of broadcast radio stations is done automatically. Referring to FIG. 7, there is shown a flow diagram of a process for automatically initial preset assignment by a computer program running on computer system **20**. In step **100**, a locator is entered, for example, by a user entering a “zip code” using keyboard **44**. In optional step **102**, the user enters radio format preference or preferences (i.e. such as news, talk, type of music as discussed above). At step **104**, the computer program directs AM/FM tuner **12** to scan the applicable broadcast frequency band for strong signals. At step **106**, the strongest signals are compared to available stations based on the locator and information about available radio stations, as discussed above in the discussion of audio system mode operation. At step **108**, the broadcast frequencies of the strongest signals are **108**, the broadcast frequencies of the strongest signals are assigned by the computer program to the presets. If format preferences have been entered at optional step **102**, the strongest signals for each of the selected formats may be assigned to the presets. The number of presets for each format is dependent on the number of presets available and the number of formats selected. For example, if the user has selected two formats and there are six presets available, the broadcast frequencies of the strongest three signals in each format are assigned to presets. If optional step **102** has not been performed, stations may be assigned to presets in other ways; for example, the strongest signal of each of the formats may be assigned to a preset, or the strongest signals, irrespective of format may be assigned to preset.

A user can enter control signals or data for controlling the operation of the sound system through three data/control input systems. A first input system includes the input devices of computer system **20**, including mouse **40**, keyboard **44**, and external display **36**. A second input system includes the buttons of control panel (FIG. 5) of sound reproduction

10

device **10** of FIG. 1. A third input system includes the remote control device **17** of FIG. 1, shown in more detail in FIG. 8. In one implementation, different subsets of control signals and data input can be entered through each of the input systems. In this implementation the control panel (FIG. 5) has input buttons for the following control/data functions: four buttons **120** for entering control signals and data for various clock-radio functions of sound reproduction device **10**; a sound reproduction device on/off switch **122**; a broadcast band selector button **124**; an aux input selector **126**; volume control buttons **127**; two tuning buttons **128**; and preset buttons **72a–72f**, discussed above. Remote control device (FIG. 8) has input buttons for the following control/data functions: sound reproduction device on/off switch **130**; volume control buttons **134**; broadcast band selector button **136**; PC signal source selector buttons **138**, preset selector buttons **140a–140f**, CD player pause button **141**; and five “overloaded” or multi-use buttons. Button **142** activates the “snooze” feature if the sound reproduction device has been turned on to a broadcast radio station by the alarm, or mutes or unmutes the sound reproduction device if the sound reproduction device has been turned on any other way. Button **144** turn off the alarm if the clock radio alarm feature of the sound reproduction device is sounding, or stops the CD player **28**. Track/tune button **147** is discussed in more detail below.

Equivalent control signals that can be entered from more than one of the three input systems have the same effect, regardless of which input system was used to enter the data or control signal. For example, if the sound source is FM broadcast radio, and preset button **1** is activated, the audio system tunes to the broadcast frequency represented by preset button **1**, regardless of whether the preset button was activated by pressing preset button **72a** on the control panel, pressing preset button **140a**, on remote control device **17**, or by selecting preset icon **150a** on the user interface screen (FIG. 6) shown on display **36** (FIG. 1). Additionally, if the data or control signal is entered through remote control device **17** or through the sound reproduction device control panel (FIG. 5), a visible indication is displayed on the user interface screen (FIG. 6). For example, if preset button **140a** (preset button **1**) is pressed on remote control device **17**, a visible indication appears on user interface screen (FIG. 6) shown on display **36**.

The effect of the control signal may depend on the source of the audio signals. For example, if the source of the audio signals is the AM/FM tuner **12** (FIGS. 1 and 2), selecting the “tuning” buttons **128** (FIG. 5) on the control panel, or the corresponding buttons **147** (FIG. 8) on the remote control device, or the corresponding graphical FIG. 79 (FIG. 6) causes the tuning frequency of the AM/FM tuner to change. If the source is music files, the names of the music files may appear in the available selections region **90** (FIG. 6) of the interface screen, and selecting of the tuning buttons on the control panel or the equivalent control buttons on remote control device or the equivalent graphical figure on the display screen may cause the display to change the highlighted music file. If the source is web radio stations, the available web radio stations may appear in the available selections region **90** (FIG. 6) of the interface screen, and selecting of the tuning buttons on the control panel or the equivalent control buttons on remote control device or the equivalent graphical figure on the display screen may cause the display to change the highlighted web radio station.

In the event that the control electronics circuitry **16** (FIG. 1) of the sound reproduction device receives from remote control device **17** a remote control signal that control

US 7,277,765 B1

11

electronics circuitry **16** cannot decode, the control electronics circuitry retransmits the remote control signal to computer system **20** for decoding.

For ease of selecting individual sources, in one embodiment, in addition to specifying a category (such as music files, broadcast radio stations, computer network accessible radio stations, music files, and CD) of sources, the user may select from a subset of all the sources in a category. For example, if the user has selected broadcast FM, broadcast AM, or network accessible radio as the source category, the user may choose to select an individual radio station from a subset of all available radio stations, the subset including only radio stations having a particular format, such as news; or if the user has selected music files as the source category the user may choose to select a file from a subset of all available files, the subset including only music of a certain type, such as jazz.

This may be conveniently done using the available selections region **90** (FIG. 6) and the various control input devices, including keyboard **44** or mouse **40** (FIGS. 1 and 2) radio control panel (FIG. 5), or the remote control device **17** (FIGS. 1, 2, and 8). The computer program running on computer **20** may provide for the user to enter a preferred subset category, or alternatively, may allow the user to sort, order or filter the entries in the available selections region. The input devices may then be used to highlight and select entries in the available selections region **90**. In one embodiment, the tuning keys **128** of the control panel (FIG. 5), or the corresponding buttons **147** on remote control **17** are used to highlight and select entries in the available selections region. In this embodiment, pressing the tuning key **128** or **147** highlights the next entry in the available selections region **90**. The tuning keys may also be used in the above manner even if the interface screen (FIG. 6) is not visible on the display, as may happen if the interface screen has been minimized or if the view of the interface screen is obscured by a graphical display generated by a software program. This aspect of the invention may also be used in audio systems which have no display associated with them.

In another embodiment, when the source category is broadcast radio, tuning keys **128** of the control panel (FIG. 5) and the corresponding buttons **147** on remote control **17** are used in the conventional manner, that is, to change the tuning frequency of AM/FM tuner **12**.

FIGS. 9A, 9B, 9C and 9D are schematic circuit diagrams of circuitry in a radio in an exemplary embodiment of the invention implementing AM-FM tuner **16**, audio signal processing circuit **14** and control electronic circuitry **16** in the system of FIG. 2. FIG. 10 is a schematic circuit diagram of an exemplary embodiment of interface unit **54**.

There is enclosed a CD-ROM that may be inserted into the D drive of a personal computer in an exemplary embodiment of the invention.

It is evident that those skilled in the art may make numerous modifications of and departures from the specific apparatus and techniques disclosed herein without departing from the invention concepts. Consequently, the invention is to be construed as limited only by the spirit and scope of the appended claims.

What is claimed is:

1. An audio reproduction system comprising:

(i) an audio source device comprising:

a storage device configured to store a plurality of music files, each music file including at least a first and second type of metadata that characterizes the music file; and

12

a display for displaying a user interface configured to present a first assemblage of the plurality of music files in a first set groups according to the first type of metadata associated with the music files, and, in response to a user selection of a group in the first assemblage, present a second assemblage of the music files in the selected group, wherein the second assemblage presents the music files in the selected group in a second set of groups according to the second type of metadata associated with the music files in the selected group;

(ii) an enclosure comprising:

a powered speaker;

an interface configured to operably couple the audio source device with the powered speaker; and

control circuitry for receiving control signals; and

(iii) a remote control configured to produce at least a first control signal that controls an operation of the audio source device, wherein the first control signal is received by the control circuitry and transmitted to the audio source device via the interface.

2. The audio reproduction system of claim 1 wherein the audio source device further comprises a processor and instructions stored on a computer-readable medium that when executed by the processor cause the processor to assemble the plurality of music files into the first set of groups based on the first type of metadata associated with each respective music file, and assemble the plurality of music files into the second set of groups based on the second type of metadata associated with each respective music file.

3. The audio reproduction system of claim 2 further including instructions that cause the processor to detect an addition of a new music file to the plurality of music files after assembling the plurality of music files into two or more groups, and in response to detection of a new music file, automatically updating the first and second set of groups with the new music file based on first and second type of metadata associated with the new music file.

4. The audio reproduction system of claim 1 wherein the first or second type of metadata comprise artist information.

5. The audio reproduction system of claim 1 wherein the first or second type of metadata comprise album information.

6. The audio reproduction system of claim 1 wherein the first or second type of metadata comprise composer information.

7. The audio reproduction system of claim 1 wherein the first or second type of metadata comprise information about music type.

8. The audio reproduction system of claim 1 wherein the storage device comprises a hard drive.

9. The audio reproduction system of claim 1 wherein the display device comprises a monitor.

10. The audio reproduction system of claim 1 wherein the user interface is further configured to present information about a source of audio information.

11. The audio reproduction system of claim 1 wherein the user interface is configured to present the first and second type of metadata associated with music files.

12. The audio reproduction system of claim 11 wherein the user interface is configured to permit a user to sort music files based on the presented metadata.

13. The audio reproduction system of claim 1 wherein the audio source device comprises a computer.

14. The audio reproduction system of claim 13 wherein the computer comprises a personal computer.

## US 7,277,765 B1

## 13

15. The audio reproduction system of claim 1 wherein the storage device comprises a hard drive.

16. The audio reproduction system of claim 1 wherein the interface comprises an electrical connector.

17. The audio reproduction system of claim 1 wherein the remote control is further configured to produce a second control signal that controls an operation of the powered speaker.

18. The audio reproduction system of claim 17 wherein the first control signal comprises a signal instructing the audio source device to skip to the next track and the second control signal comprises a volume control signal.

19. The audio reproduction system of claim 1 wherein the first control signal comprises a signal instructing the audio source device to skip to the next track.

20. The audio reproduction system of claim 1 wherein the enclosure further comprises a radio tuner.

21. The audio reproduction system of claim 1 wherein the interface comprises a physical interface configured to operably couple the audio source device with the powered speaker.

22. The audio reproduction system of claim 1 wherein the interface is further configured to removably couple the audio source device with the powered speaker.

23. The audio reproduction system of claim 1 wherein the first control signal comprises a digital signal when it is transmitted to the audio source device via the interface.

24. The audio reproduction system of claim 1, wherein the audio source device is configured to transmit an analog representations of the respective music files to the sound reproduction device via the interface.

25. An audio reproduction system comprising:

a sound reproduction device comprising at least one speaker;

an interface unit operably coupled to the sound reproduction device;

a music storage device configured to removably connect with the sound reproduction device via the interface unit, the music storage device comprising:

a storage device configured to store a plurality of music files each including at least a first and second type of metadata characterizing the respective music files;

a processor; and

instructions stored on a computer-readable media that when executed, cause the processor to:

assemble the plurality of music files into a first set of groups based on the first metadata associated with each respective music file;

assemble the plurality of music files into a second set of groups based on the second metadata associated with each respective music file;

detect an addition of a new music file to the plurality of music files after assembling the plurality of music files into two or more groups; and

in response to detection of a new music file, automatically update the first and second set of groups with the new music file based on first and second type of

metadata associated with the new music file; and

a remote control device configured to transmit at least a first command and a second command to the sound reproduction device, wherein the first command is received at the sound reproduction device and controls a function of the sound reproduction device and the second command is received at the sound reproduction

## 14

device and communicated to the music storage device via the interface and controls a function of the music storage device.

26. The audio reproduction system of claim 25 wherein the music storage device comprises a personal computer.

27. The audio reproduction system of claim 25 wherein the mass storage device is located within the music storage device.

28. The audio reproduction device of claim 25 wherein the sound reproduction device further comprises a radio tuner.

29. The audio reproduction device of claim 25 wherein the music storage device comprises circuitry for converting a music file to audible sound.

30. The audio reproduction device of claim 25 wherein the sound reproduction device further comprises a housing containing the one or more speakers, and the interface unit is physically integrated within said housing.

31. The audio reproduction device of claim 25 wherein the interface unit is physically connected to the sound reproduction device via a cable.

32. The audio reproduction device of claim 25 wherein the first type of metadata comprises one or more of the following: artist, composer, album, and type of music.

33. The audio reproduction system of claim 25 wherein the interface unit is configured to receive from the remote control the commands that control operation of the music storage device.

34. The audio reproduction system of claim 25 wherein the storage device is configured to receive from the remote control the commands that control operation of both the speaker and the music storage device.

35. An audio reproduction system comprising:

(i) a sound reproduction device comprising:

an enclosure;

a powered speaker mounted within the enclosure; and

a radio tuner located within the enclosure;

(ii) an interface device operably coupled to the sound reproduction device;

(iii) an audio source device configured to removably connect to the sound reproduction device via the interface device, the audio source device comprising:

a storage device configured to store a plurality of music files, each music file including at least a first and second type of metadata that characterizes the music file; and

a display for displaying a user interface configured to present a first assemblage of the plurality of music files in a first set groups according to the first type of metadata associated with the music files, and, in response to a user selection of a group in the first assemblage, present a second assemblage of the music files in the selected group, wherein the second assemblage presents the music files in the selected group in a second set of groups according to the second type of metadata associated with the music files in the selected group; and

(iv) a remote control device configured to produce at least a first command and a second command, wherein the first command controls a function of the audio source device and the second command controls a function of the sound reproduction device.

36. The audio reproduction system of claim 35 wherein the interface device is configured to receive the second command from remote control device and transmit the received second command to the audio source device.

US 7,277,765 B1

15

37. An audio reproduction system comprising:  
 (i) a sound reproduction device comprising:  
     an enclosure;  
     a powered speaker at least partially located within the enclosure; and  
     an interface module at least partially integrated within the enclosure;  
 (ii) an audio source device configured to operably connect to the sound reproduction device via the interface module, the audio source device comprising:  
     a storage device configured to store a plurality of music files, each music file including at least a first and second type of metadata that characterizes the music file; and  
     a display for displaying a user interface configured to present a first assemblage of the plurality of music files in a first set groups according to the first type of metadata associated with the music files, and, in response to a user selection of a group in the first assemblage, present a second assemblage of the music files in the selected group, wherein the second assemblage presents the music files in the selected group in a second set of groups according to the second type of metadata associated with the music files in the selected group; and

16

(iii) a remote control device configured to produce both first command and a second command, wherein the first command controls a function of the audio source device and the second command controls a function of the sound reproduction device.

38. The audio reproduction system of claim 37 wherein the interface module is configured to provide a physical interface between the sound reproduction system and the audio source device.

39. The audio reproduction system of claim 38 wherein the first control signal comprises a signal instructing the audio source device to skip to the next track.

40. The audio reproduction system of claim 38 wherein the first control signal comprises a signal instructing the audio source device to skip to the next track and the second control signal comprises a volume control signal.

41. The audio reproduction system of claim 38 wherein the enclosure further comprises a radio tuner.

42. The audio reproduction system of claim 37 wherein the audio source device comprises a computer.

43. The audio reproduction system of claim 37 wherein the storage device comprises a hard drive.

\* \* \* \* \*

# Addendum B

Case No. 1:09-CV-11439-WGY

# Addendum C



Sound Reproducing, claims 1-3, 13, 16-25, 33, 35, and 37-42. See Compl. Patent Infringement Demand Jury Trial, ECF No. 1. Bose owns the '765 patent, although the U.S. Patent and Trademark Office presently is reexamining the patent at the request of counsel for Imation and DPI. Currently, the patent reexamination is wending its way through an excruciatingly slow administrative appeals process with an interim conclusion that the patent is invalid. In light of this reexamination, the judge to whom this case had been originally assigned stayed this proceeding as a matter of judicial economy.

More recently, SDI, Imation, and DPI (collectively "the Defendants")<sup>2</sup> filed a joint motion for summary judgment arguing that the accused products cannot infringe as matter of fact and law after this Court's claim construction, that they cannot be found to have the requisite intent for indirect infringement as a matter of fact and law, and requesting summary judgment on the priority date of several claims.

**A. Procedural Posture**

The asserted claims are involved in an inter partes reexamination in the U.S. Patent and Trademark Office.<sup>3</sup> Once the

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<sup>2</sup> Defendant 3XM is not a party to this motion for summary judgment. 3XM has not filed any pleadings or motions with the Court since October 2010. See 3XM's Notice Assent Joint Stipulation Extend Dep. Deadline Mediation Deadline, ECF No. 114.

<sup>3</sup> The status of, and the documents related to, this reexamination are accessible through the PTO Patent Application

case was reassigned, this Court denied the Defendants' motion for summary judgment of invalidity, ECF No. 150, and lifted the stay of discovery.<sup>4</sup>

On January 10, 2012, the Defendants filed the current motion for summary judgment, Defs.' Joint Mot. Summ. J., ECF No. 239, along with a supporting memorandum and a statement of undisputed material facts, Defs.' Joint Mem. Supp. Mot. Summ. J. ("Defs.' Mem."), ECF No. 242; Statement Undisputed Material Facts, ECF No. 243. Bose opposed the motion on January 31, 2012. Bose Corp.'s Opp'n Defs.' Second Joint Motion Summ. J. ("Pl.'s Opp'n"), ECF No. 267. Bose also submitted a statement of controverted and supplemental facts. Pl.'s Local Rule Statement Controverted Supplemental Facts ("Pl.'s Facts"), ECF No. 262. The Defendants filed a reply brief on February 8, 2012, Defs.' Joint Reply Supp. Mt. Summ. J., ECF No. 269, together with a response to Bose's statement of controverted and supplemental facts, Defs.' Resp. Pl.'s Statement Controverted Supplemental Facts, ECF No. 270.

Defendants' motion for summary judgment was heard on

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Information Retrieval system (PAIR), Application No. 95/001,260. According to PAIR, the parties participated in an administrative appeal hearing on May 2, 2012.

<sup>4</sup> Lifting the stay is hardly free from controversy and reasonable minds may differ. As a general matter, this Court is skeptical of stays to wait for the action of another court or administrative agency. This Court will rarely grant a stay over a party's opposition. As here.

February 14, 2012, and the Court took the matter under advisement. Clerk's Notes, Feb. 14, 2012.

### **1. Claim Construction**

This Court held a Markman hearing on November 14, 2011, and entered a memorandum of decision constructing the claims on December 12, 2011. Mem. Decision Patent Claim Construction ("Markman Mem."), ECF No. 210 (also available at Bose Corp. v. SDI Tech., Inc., 828 F. Supp. 2d 415 (D. Mass. 2011)). Bose moved for reconsideration and clarification of the Court's decision, Bose Corp.'s Mot. Recons. Clarification Ct.'s Mem. Decision Patent Claim Constr., ECF No. 253; ECF No. 254, which was opposed by SDI, Defs.' Mot. Strike Bose's Mot. Reconsider Claim Constr., ECF No. 256, and denied by this Court on January 20, 2012, Elec. Order, Jan. 20, 2012.

At the Markman hearing, Bose opposed the Court's adopted construction of "interface" specifically by arguing that it would preclude certain claims. See Tr. Markman Hr'g, ECF No. 200. The Defendants now claim that the claim construction precludes all infringement claims, which, of course, Bose disputes.

### **B. Facts**

The devices accused of infringement are speaker docks that connect with Apple iPods, iPhones, or iPads (collectively called "iDevices"). Bose has accused one hundred forty-four products. Defs.' Mem. 3. One hundred forty-three of the one hundred forty-

four products (and every product of defendants Imation and DPI) are speakers with a "30 pin connector" that can connect with an iPod. Id. These one hundred forty-three products are collectively called the "Common Products". Id. One SDI product, the "AirPlay product" or "iW1", can connect to an iPod wirelessly or through a cable. Id.

# **1. U.S. Patent No. 7,277,765**

The patent in question, U.S. Patent No. 7,277,765, has four independent claims: claims 1, 25, 35, and 37. Decl. Matthew J. Himmich Supp. Defs.' Mot. Summ. J. Asserted Claims '765 Patent Are Invalid Being Obvious, Ex. B, ECF No. 131-3; Pl.'s Facts ¶ 1; Decl. Tal Kedem Supp. Pl' Bose Corp.'s Opp'n Defs.' Second Joint Mot. Summ. J. ("Decl. Kedem"), Ex. 1, Expert Report Martin E. Kaliski, PhD Nov. 22, 2011 ("Kaliski Report") ¶ 30, ECF No. 265-1 - 265-3. Bose is alleging infringement of claims 35 and 37-42 against defendants DPI, Imation, and Memorex, and all of SDI's products, except for the iW1. Pl.'s Facts ¶¶ 2-3. As to SDI's iW1 product, Bose is alleging infringement of claims 1-2, 13, 16-19, 21-23, 37-40, and 42. Id. ¶ 4.

Each asserted independent claim of the '765 patent requires an "audio source device." '765 Patent at claims 1, 25, 35, 37. Bose admits that the Defendants' products must be combined with an "audio source device" in order to directly infringe the '765 patent. Pl.'s Facts ¶ 44. Each claim of the '765 patent also

requires some form of an "interface." See '765 Patent. None of the accused products contains or includes an "audio source device." Pl.'s Facts ¶ 49. The interface unit in Figure 2 of the '765 patent receives digital audio signals from the computer and converts the digital signals into analog audio signal. '765 Patent, col. 4, ll. 32-55.

In relevant parts, claim 1 of the patent is an audio reproduction system comprised of an audio source device, an enclosure with an interface and powered speaker, and a remote control. Id. col. 11, l. 62 - col. 12, l. 22. Claim 25 includes an audio reproduction system, and interface unit operably coupled to the sound reproduction device, a music storage device and a remote control. Id. col. 13, l. 33 - col. 14, l. 3. Claim 35 is an audio reproduction device with a sound reproduction device (including an enclosure, speaker and radio tuner), an interface device coupled to the sound reproduction device, an audio source that "removably connect[s] to the sound reproduction device via the interface device" and a remote control. Id. col. 14, ll. 33-63. In claim 37, the sound reproduction device is an enclosure with "an interface module at least partially integrated within the enclosure." Id. col. 15, l. 1 - col. 16, ll. 5.

## **2. Claim Construction**

This Court conducted a Markman hearing to construe certain terms in the '765 Patent. See Tr. Markman Hr'g; Clerk's Notes,

Nov. 14, 2011. In the Markman order, the Court gave ordinary meaning to a number of terms: "including," "signal," "command," "automatically update," "audio source device," "music storage device," and "computer." Markman Mem. 17-21. The Court declined to construe the phrase "an analog representations of the respective music files." Id. at 22. The Court construed "a display for displaying a user interface" as "a display capable of displaying." Id. at 13. The Court construed the term "metadata" as "data containing identifying characteristics." Id. at 15. The Court construed a "music file" as "a recorded unit of sound." Id. at 17.

Most importantly to this case, the Court construed "interface" as "circuitry that converts a digital audio signal from an audio source to an analog audio signal and transmits digital control commands." Id. at 6. The term "interface" appears, either explicitly or by reference, in every claim of the '765 Patent. "Interface" appears in claims 1-24, "interface unit" appears in claims 25-34, "interface device" appears in claims 35-36, and "interface module" appears in claims 37-38. See id. The Court was unpersuaded by Bose's argument that the interface was just a "connection" and looked to the specification, prosecution history, and extrinsic evidence to define the term. Markman Mem. 4-12.

The specification identifies the "interface" and depicts and

describes an "interface unit" in more detail. '765 Patent, Fig. 3, col. 4, ll. 15-31. The interface unit detailed in Figure 3 "typically [has] three implementation arrangements." '765 Patent, col. 3, ll. 60-61. One arrangement includes the interface unit inside a computer system. Id. col. 4, ll. 61-62. Another is as an "intermediate, separate unit" which uses cables to connect to a computer, and the sound reproduction device. Id. col 5, ll. 4-10. A third includes the interface unit in the sound reproduction device. Id. col. 5, ll. 11-16. Notably, each of these three arrangements appears to treat the interface unit as a discrete device.

The Court has construed each of the terms "interface unit," "interface device," and "interface module" as "a structure that includes the interface." Markman Mem. 12. Thus, each of these terms is a structure that includes "circuitry that converts a digital audio signal from an audio source to an analog audio signal and transmits digital control commands." See id. at 6. These are "three similar, yet different structures with different implementation schemes." Id. at 13. The implementation schemes are those articulated in claims 25, 35, and 37. See '765 Patent, col. 13-15. The Court's construction of these terms is buoyed by the detailed description of the interface unit in the Specification in Figure 3.

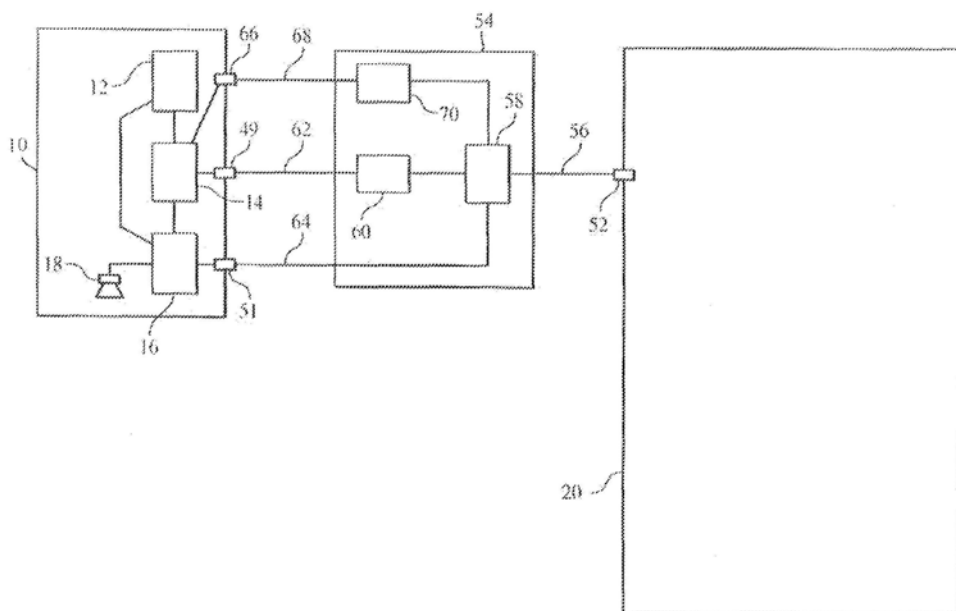


FIG. 3

U.S. Patent Oct. 2, 2007 Sheet 3 of 33 US 7,277,765 B1

Figure 3 depicts an interface unit (54), connected by a signal line to a computer (20), and also connected to a sound reproduction device (10), by way of analog and digital signal lines. '765 Patent, Fig. 3, col. 4, ll. 15-31. The interface unit includes a digital-to-analog converter (60),<sup>5</sup> and an analog to digital convertor (70). Id. The interface unit also includes logic circuitry (58) that "transmits digital controls commands"

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<sup>5</sup> According to Bose's expert Dr. Kaliski, a "digital-to-analog converter takes the digital representation of the audio and converts it back to an analog signal that can be used to drive a speaker." Kaliski Report ¶ 24.

received from the sound reproduction device (10). Id. Thus, the '765 specification depicts Figure 3 as practicing the interface unit, module, or device in the '765 Patent as construed by this Court.

Bose has argued that this Court explicitly rejected the Defendants' argument that the interface module, unit and device need be "discrete." Pl.'s Opp'n 5. To the extent that not adopting the word "discrete" caused confusion and unnecessary filings by the parties, the Court is regretful. When the Court stated "I don't think I need discrete" in the Markman hearing, Tr. Markman Hr'g at 13:11-12, the intimation was that the construction "structure including interface" defining the interface unit, module, and device was something singularly physical, not defined on paper as different pieces of separate devices. Bose's understanding of the Court's claim construction of interface module, unit, and device is incorrect.

### **3. Facts Relating to Intent**

SDI, Imation, and DPI each claim that the undisputed facts show that they could not have the requisite intent to infringe Bose's patent. Defs.' Mem. 14. It is undisputed that Bose's damages expert testified that SDI "had an invalidity opinion and believed that the patent was invalid," that "DPI had an invalidity opinion and [DPI's President and CEO] testified to his certainty of the invalidity of the patent," and that Imation

"also had an invalidity opinion." Pl.'s Facts ¶ 53. On November 12, 2009, Matthew Himich ("Himich") of Thompson Coburn LLP filed with the Patent Office a request for reexamination of the '765 patent - requesting reexamination of every claim of the patent on behalf of DPI and Imation. Id. ¶ 54.

On January 13, 2010, the Patent Office rejected all claims of the '765 patent, as being either anticipated or made obvious by prior art. Pl.'s Facts ¶ 58. On June 7, 2010, the Patent Office issued an Action Closing Prosecution ("ACP") in the reexamination and reaffirmed its rejection of every claim of the '765 patent. Id. ¶ 61. On July 7, 2010, Bose requested that the Patent Office reconsider and withdraw its rejection, and Bose submitted further arguments for the Patent Office's consideration. Id. ¶ 64. After a "Final Decision" by the Patent Office, Bose appealed to the Board of Patent Appeals and Interferences. Id. ¶ 67. Bose does not dispute that Imation, Memorex, and DPI are aware of the Right to Appeal Notice/Final Decision. Id. ¶ 66. Himich also testified that he spoke with Imation, Memorex, and DPI employees during the reexamination proceedings, although Bose disputes how many times he spoke with them. Id. ¶ 68.

Bose asserts that SDI, Imation, and Memorex have been aware of the infringement allegations since at least December 2008, Pl.'s Facts 35, 39, and DPI has been aware of the infringement

since at least January 2009, id. at 42. Bose submitted instruction manuals from each of the Defendants, which show that their accused infringing products can be combined with an iPod, iPhone, or iPad via the docking capability and instruct users to combine their iDevice with the accused products via the 30-pin connector dock, or in the case of iW1, via either a USB cable or wireless network adapter. Pl.'s Facts 36, 39, 42; e.g., Decl. Tal Kedem, Ex. 8, SDI iP9 Manual, ECF No. 265-10 ("Insert an iPhone or iPod into the dock with proper insert . . . ."). Representatives of each Defendant also testified that they expected the alleged infringing products to be used with iDevices. Pl.'s Facts 38, 41, 43-44.

**a. Imation**

On December 16, 2008, Bose sent a letter to Eric Levinson ("Levinson"), Imation's chief in-house patent counsel from 2000 until March 2011, alleging infringement of the '765 patent. Id. ¶¶ 70-71. In the letter, Bose alleged that one Imation product infringed the '765 patent. Id. ¶ 73. Levinson testified in his deposition that he made internal and external inquiries regarding the product mentioned in Bose's letter. Id. ¶ 74. Levinson learned that the product listed in Bose's December 16, 2008 letter was discontinued, and he communicated that information to Bose. Id. ¶ 75. On January 20, 2009, Bose informed Levinson that it believed other Imation products infringed the '765

patent. Id. ¶ 76. Levinson testified that he then conducted an investigation regarding Bose's allegations, but Bose disputes whether it was an investigation. Id. ¶ 77. Levinson contacted outside counsel, patent attorney Kelly Fitzgerald ("Fitzgerald") of Shumaker & Sieffert, to evaluate Bose's January 20, 2009 allegations. Id. ¶ 79. Imation claims to have received oral advice along with a written opinion from Fitzgerald that the products did not infringe, and that Imation relied on this opinion. Id. ¶¶ 80-82.

**b. DPI**

William Fetter ("Fetter"), DPI's President and CEO, claims that DPI began selling the products that Bose accuses of infringement in 2006. Id. ¶ 87. Fetter reports that DPI began developing these products in 2005. Id. ¶ 86. Fetter testified that DPI had not heard of the '765 patent before Fetter received notice of the patent from Bose "in late 2008 or early 2009." Id. ¶¶ 87-88. On February 17, 2009, Fetter contacted a DPI engineer, Lee Ka Wing ("Lee"). Id. ¶ 89. Fetter sent Bose's letter to Lee and asked him to review Bose's allegations. Id. ¶ 90. Lee emailed Fetter back, in part explaining that the patent involved a computer and that the iPod's used by DPI's products are not a computer.<sup>6</sup> Id. ¶ 91. Fetter responded to Lee's email and stated

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<sup>6</sup> Bose claims that all iDevices are computers. This Court declined to construct the term "computer" and in this case the analysis need not turn on that definition.

"I sure did not see how their patent was in any way infringed by our products. I am glad you confer [sic] with my thinking." Id. ¶ 92. On February 21, 2009, counsel for Bose informed Fetter that "they are claiming that the iPod is the computer" and that DPI allegedly infringes because DPI's remote controls operate the iPod. Id. ¶ 93. On February 21, 2009, Lee told Fetter that the computer in the '765 patent is connected to a network and he is sure the iPod cannot be part of the network. Id. ¶ 96. At some point, DPI retained Himich of Thompson Coburn LLP. Id. ¶ 97.

The parties dispute whether Himich gave DPI a legal opinion that the patent was invalid, and whether DPI relied on Himich's opinion. Id. ¶¶ 98-99. Himich filed a request for reexamination of all the claims of the '765 patent, setting forth his reasons why every claim of the '765 Patent is either anticipated or made obvious by prior art. Id. ¶ 100.

**c. SDI**

SDI received a letter from Bose dated December 10, 2008 stating that the '765 patent "applies" to several SDI "iHome" products. Id. ¶ 102. During a meeting with Bose, SDI identified U.S. Patent No. 6,026,150 ("the Frank patent").<sup>7</sup> Id. ¶ 104.

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<sup>7</sup> SDI claims that the Frank patent, combined with prior art, would invalidate the claims of the '765 Patent, and that SDI informed Bose representatives in a March 2009 meeting. See Pl.'s Facts ¶¶ 103-05. Bose objects to the admission of evidence or communications from that meeting, claiming that counsel agreed in

After the matter was not resolved at the March 26, 2009 meeting, SDI commissioned and then received a written opinion by George E. Oram, Jr. ("Oram") of Arent Fox LLP, dated May 22, 2009, on the subject of the validity of the patent. Id. ¶ 106. Oram opined that all of the asserted claims of the '765 patent were invalid based on the combination of the Frank patent and U.S. Patent No. 6,563,769 (the "Van Der Muelen patent"). Id. ¶ 107. Bose disputes that SDI relied on this opinion. Id. ¶ 108.

The Frank patent was subsequently combined with the Van Der Muelen patent in a reexamination of the '765 patent to reject all of the claims of the patent, along with two other rejections based on other prior art. Id. ¶ 109.

## **II. ANALYSIS**

### **A. Summary Judgment Standard**

Summary judgment is appropriate where the "pleadings, depositions, answers to interrogatories, . . . admissions on file, . . . [and] affidavits" show that "no genuine issue as to any material fact" exists. Fed. R. Civ. P. 56(c). When determining a motion for summary judgment, the court must view the facts and draw all reasonable inferences in favor of the nonmoving party. Pineda v. Toomey, 533 F.3d 50, 53 (1st Cir. 2008). An issue of fact is genuine if there exists a sufficient

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writing that the communications are protected by Federal Rule of Evidence 408 and Local Rule 16.4. Id. ¶ 103.

evidentiary basis on which the trier of fact could find for the non-moving party. Anderson v. Liberty Lobby, 477 U.S. 242, 248 (1985). A fact is "material" if it will affect the outcome of the case under the applicable law. Id. Save as to facts admitted by both parties, courts must disregard all evidence - even if unopposed - which the jury is free to reject, i.e., all evidence upon which a party bears the burden of proof. Reeves v. Sanderson Plumbing Prods., Inc., 530 U.S. 133, 151 (2000).

"Summary judgment is as available in patent cases as in other areas of litigation." Tokai Corp v. Easton Enters., Inc., 632 F.3d 1358, 1366 (Fed. Cir. 2011) (quoting Continental Can Co. USA, Inc. v. Monsanto Co., 948 F.2d 1264, 1265 (Fed. Cir. 1991)); cf. In re One Star Class Sloop Sailboat Built in 1930 with Hull Number 721, Named "Flash II", 517 F. Supp. 2d 546, 555 (D. Mass. 2007) (noting the overuse of summary judgment by federal courts). Thus, summary judgment may be granted when a fair-minded jury could reach only one conclusion: in favor of the moving party.

#### **B. Literal Infringement**

The interpretation and construction of claims in a patent "which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-971 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996); Bailey v. Dart Container Corp. of Mich., 980 F. Supp. 560, 565, on reconsideration in part, 980

F. Supp. 584 (D. Mass. 1997) (Lindsay, J.). "To establish infringement of a patent, every limitation set forth in a claim must be found in an accused product or process exactly or by a substantial equivalent." Becton Dickinson & Co. v. C.R. Bard, Inc., 922 F.2d 792, 796 (Fed. Cir. 1990) (citing Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1259 (Fed. Cir. 1989)).

Courts determine patent infringement by first learning the meaning of the claims from the relevant patent documents, and then by applying the claims to the accused structures. Id. at 796 (citing Caterpillar Tractor Co. v. Berco, S.P.A., 714 F.2d 1110, 1114 (Fed. Cir. 1983)). Generally speaking, infringement is a question of fact. Popeil Pasta Prods., Inc. v. Creative Tech. Corp., 56 F.3d 84, at \*4 (Fed. Cir. 1995) (unpublished table decision) (citing SSIH Equip. S.A. v. United States Int'l Trade Comm'n, 718 F.2d 365, 376 (Fed. Cir. 1983)). Where the parties do not dispute relevant facts but instead dispute the construction, the question may be amenable to summary judgment. MBO Labs., Inc. v. Becton, Dickinson & Co., 783 F. Supp. 2d 216, 220-21 (D. Mass. 2011) (Stearns, J.), aff'd, No. 11-1446, 2012 WL 1608687 (Fed. Cir. May 9, 2012) (citing Athletic Alts., Inc. v. Prince Mfg., Inc., 73 F.3d 1573, 1578 (Fed. Cir. 1996)); see also Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1453 (Fed. Cir. 1998).

It is undisputed that Defendants' manufacture, sale, offer for sale, or importation of the accused products into the United States standing alone, i.e., without any audio source device, is not an act of direct infringement of the '765 patent. Pl.'s Fact ¶ 45. Instead, Bose claims that the Defendants indirectly infringed the '765 patent by contributory infringement and by inducing third-parties to infringe the patent. Id. ¶ 52; First Am. Compl. Patent Infringement Demand Jury Trial 4-7, ECF No. 45.

In its original infringement contentions, Bose argued that the "interface" in Defendants' products was the "dock" on the top of the products that received the iDevice. E.g., Pl.'s Prelim. Infringement Disclosure, Ex. 1 at 6, ECF No. 69-2. Following the November 14, 2011 claim construction hearing, Bose served the infringement report of its expert, Dr. Martin E. Kaliski ("Dr. Kaliski"), dated November 22, 2011. Pl.'s Facts ¶ 23. The Kaliski report does not allege infringement under the doctrine of equivalents. Id. ¶ 24. Bose and its expert now contend that the claimed "interface device" or "interface module" is present in the combination of any one of the accused products together with an iDevice. Id. ¶ 25.

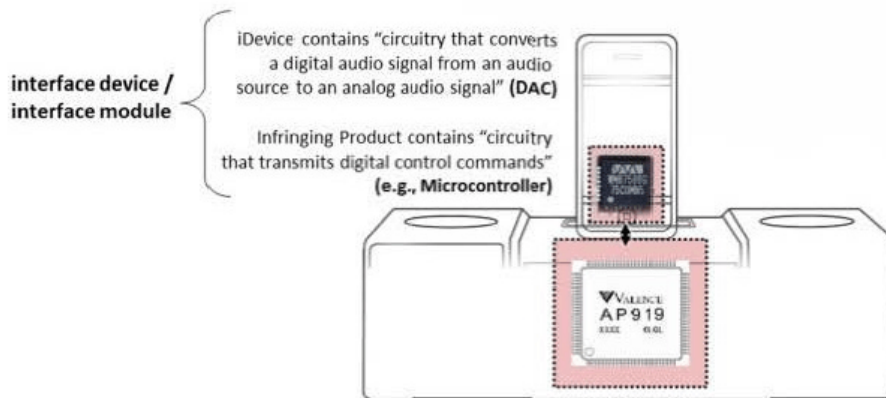
Bose alleges infringement of claims 35, and 37-42 against the defendants DPI, Imation, and Memorex. Pl.'s Facts ¶ 2. Bose and its expert contend that the digital-to-analog conversion that the patent requires takes place in the iDevice that can be

connected to all of the Defendants' products except the iW1 made by SDI. Id. ¶ 26. Bose and its expert contend that the control signal transmission of the interface device/module takes place in the Defendants' dock products (except the iW1), because they "contain[] 'circuitry that transmits digital control commands.'" Id. ¶ 28 (citing Kaliski Report ¶¶ 205, 326, 387, 440).

To demonstrate this, Bose has designated an "exemplar" product by defendant SDI, product iP9. With respect to the exemplar SDI iP9 product, Dr. Kaliski opined as follows:

The circuitry in the iP9 for transmitting digital control commands, together with the 30-pin connector, and also the DAC circuitry in the iDevice for converting a digital audio signal from the iDevice to an analog audio signal collectively constitute a structure that includes an interface, under the Court's constructions. Stated another way, the "interface device" (claim 35) and "interface module" (claim 37) comprise the circuitry in the iP9 that transmits digital control commands, the 30-pin connector, and the DAC circuitry in the iDevice. The 30-pin connector, which is part of this structure operatively couples the iDevice to the iP9 and indeed is used to removably connect the iDevice to the iP9.

Id. ¶ 30. Dr. Kaliski's analysis is the same for each of Defendants' products analyzed in his report, except the iW1. Id. ¶ 31. Bose submitted "a graphical representation of how the combination of one of the Defendants' accused products and an iDevice infringes the claim of the '765 patent." Id. ¶ 32.



Id. This picture shows that the iDevice "contains 'circuitry that converts a digital audio signal from an audio source to an analog audio signal (DAC).'" Id. Bose does not allege that the accused device itself, or indeed, any of the Common Products, contain circuitry that converts a digital audio signal from an audio source to an audio analog signal. As Bose effectively conceded in their memorandum, the Court's construction of the '765 patent requires a holding of no infringement by these Common Products. As every claim of patent requires an interface, and none of the Common Products contain a digital-to-analog converter, those products cannot infringe the '765 patent. No reasonable jury could find infringement by the Common Products, and the Court grants summary judgment to DPI, Imation, and SDI on all these accused devices.

Admittedly, the iW1 differs from the Common Products.<sup>8</sup> Although Bose's expert conceded that he did not open the iW1 enclosure to inspect the circuitry inside, the parties dispute whether the enclosure includes a digital-to-analog converter. Pl.'s Facts ¶¶ 33-34. Dr. Kaliski infers that there must be a digital-to-analog converter inside the iW1 enclosure because the device audio inputs are digital, but the speakers produce sound from analog signals. Kaliski Report ¶ 262; see Pl.'s Facts ¶ 33. Kaliski and Bose also argue that the iW1 contains circuitry that transmits digital control commands. Kaliski Report ¶¶ 273-77. Thus, depending on a jury's findings, the iW1 may include an interface, and an interface unit, and thus may meet the limitations of independent claims 1 and 37. Accordingly, this Court may not grant summary judgment based on its construction alone.

### **C. Specific Intent**

The Defendants also request this Court grant summary judgment because Bose cannot prove the intent necessary for indirect infringement.<sup>9</sup> Defs.' Mem. 14. While intent is generally an issue of fact for juries, e.g., Moba, B.V. v.

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<sup>8</sup> As to SDI's iW1 product, Bose is alleging infringement of claims 1-2, 13, 16-19, 21-23, 37-40, and 42. Pl.'s Facts ¶ 4.

<sup>9</sup> Only one defendant, SDI, remains after the claim construction. The only remaining count to be prosecuted by Bose in this case is for the iW1 product, which is covered by the '765 patent.

Diamond Automation, Inc., 325 F.3d 1306, 1318 (Fed. Cir. 2003), if the undisputed facts demonstrate either that no reasonable jury could find for Bose, or that the suit is void as matter of law, summary judgment may be appropriate, e.g., Manville Sales Corp. v. Paramount Systems, Inc., 917 F.2d 544, 554 (Fed. Cir. 1990).

"Indirect infringement, whether inducement to infringe or contributory infringement, can only arise in the presence of direct infringement, though the direct infringer is typically someone other than the defendant accused of indirect infringement." Dynacore Holdings Corp. v. U.S. Phillips Corp., 363 F.3d 1263, 1272 (Fed. Cir. 2004). Unlike direct infringement, indirect infringement requires fault or intent by the accused party. The Supreme Court has recently addressed the intent standard for both contributory infringement and inducement. In Global-Tech Appliances, Inc. v. SEB S.A., the Court held that induced infringement under section 271(b) and contributory infringement under section 271(c) have a similar knowledge requirement. 131 S. Ct. 2060, 2068 (2011). "However, 'knowledge of the acts alleged to constitute infringement' is not enough." DSU Med. Corp. v. JMS Co., Ltd., 471 F.3d 1293, 1305 (Fed. Cir. 2006) (quoting Warner-Lambert Co. v. Apotex Corp., 316 F.3d 1348, 1363 (Fed. Cir. 2003) (citation omitted)).

"Inducement requires a showing that the alleged inducer knew

of the patent, knowingly induced the infringing acts, and possessed a specific intent to encourage another's infringement of the patent." Vita-Mix Corp. v. Basic Holding, Inc., 581 F.3d 1317, 1328 (Fed. Cir. 2009). "The plaintiff has the burden of showing that the alleged infringer's actions induced infringing acts and that he knew or should have known his actions would induce actual infringements." DSU Medical Corp., 471 F.3d at 1304 (quoting Manville Sales, 917 F.2d at 554). "Intent can be shown by circumstantial evidence, but the mere knowledge of possible infringement will not suffice." Vita-Mix, 581 F.3d at 1328. "[A]ctive inducement is . . . a factual inquiry." Moba, B.V., 325 F.3d at 1318 (remanding for factual determination).

In Aro Manufacturing Co. v. Convertible Top Replacement Co. ("Aro II"), the Supreme Court held that contributory infringement "required a showing that the alleged contributory infringer knew that the combination for which his component was especially designed was both patented and infringing." 377 U.S. 476, 489 (1964). Although Aro II was a fractured majority, the Supreme Court put the issue to rest in Global-Tech, citing the principles of stare decisis while noting that "Aro II has become a fixture in the law of contributory infringement." Global-Tech, 131 S.Ct. at 2068 (quoting Moy's Walker on Patents § 15:20, p. 15-31 (4th ed. 2009)) ("Nor has Congress seen fit to alter § 271(c)'s intent requirement in the nearly half a century since Aro II was

decided." ). In Global-Tech, the Supreme Court also rejected the Federal Circuit's "deliberate indifference standard" and applied the doctrine of willful blindness to contributory infringement claims, and by implication, inducement claims. Id. at 2068-69. This created a standard for intent where, at a minimum, "(1) the defendant must subjectively believe that there is a high probability that a [patent] exists and (2) the defendant must take deliberate actions to avoid learning of that fact." Id. at 2070. The Court also contrasted a willfully blind defendant with a reckless one, who "merely knows of a substantial and unjustified risk of" infringement. Id. Arguably, this intent standard makes patent prosecutions more difficult.<sup>10</sup> While contributory infringement and inducement are distinct statutory provisions, the analysis for intent is identical for the narrow questions remaining in this case. See id. at 2068.

SDI argues that the undisputed facts demonstrate that it cannot have the requisite specific intent, in particular because it sought the advice of counsel and successfully initiated a reexamination of the patent. Defs.' Mem. 15-16. Bose points to the presumption in Grokster that making and selling articles that are only adapted to be used in a patented combination will be

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<sup>10</sup> It is worth noting that Bose brought this patent prosecution in 2009, two years before Global-Tech. The district judge to whom the case was first assigned stayed the case pending a reexamination of the patent. Supra at p. 2.

presumed to intend infringement. Tr. Mot. Hr'g at 4:20-25, ECF No. 274 (citing Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 946 (2005)). As this Court stated during the oral argument on the motion, that presumption is a bursting bubble presumption. See Tr. Mot. Hr'g at 4:20-25. It is true that "[o]ne who has actual notice of another's patent rights has an affirmative duty to respect those rights." Read Corp. v. Portec, Inc., 970 F.2d 816, 828 (Fed. Cir. 1992) (citation omitted), abrogated on other grounds by Markman v. Westview Instruments, Inc., 52 F.3d 967, 975 (Fed. Cir. 1995) (en banc). "That affirmative duty normally entails obtaining advice of legal counsel although the absence of such advice does not mandate a finding of willfulness." Id. (citing Kloster Speedsteel AB v. Crucible, Inc., 793 F.2d 1565, 1579 (Fed. Cir. 1986) ("Though it is an important consideration, not every failure to seek an opinion of competent counsel will mandate an ultimate finding of willfulness.")).<sup>11</sup>

SDI's arguments that Bose cannot show the requisite intent are grounded in binding precedents. For example, the Federal

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<sup>11</sup> Continuing its seemingly irreversible trend of ousting the American jury from the adjudication of patent cases, see e.g., Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 344 F.3d 1359, 1367 (Fed. Cir. 2003), the Federal Circuit has recently decided that the issue of willfulness is now matter of law for the court, subject to de novo appellate review, Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc., --- F.3d ---, No. 10-1510, 2012 WL 2149495, at \*2-3 (Fed. Cir. June 14, 2012).

Circuit has reversed liability for inducement "where corporate officers had a 'good faith belief' that the corporation's product did not infringe based on advice of counsel obtained after learning of the patent at issue." See Hockerson-Halberstadt, Inc. v. JSP Footwear, Inc., 104 F. App'x 721, 727 (Fed. Cir. 2004) (citing Manville Sales, 917 F.2d at 553 ("There is simply neither compelling evidence nor any findings that the officers had specific intent to cause another to infringe.")); see also Jason A. Rantanen, An Objective View of Fault in Patent Infringement, 60 Am. U. L. Rev. 1575, 1610 (2011) (discussing the difficulty of ascertaining the mens rea of a corporation, particularly in the complex technical area of patent law).

The leading case on the good faith advice of counsel immunizing accused infringers from suit is Manville Sales, 917 F.2d 544, where the court concluded that "[t]he plaintiff has the burden of showing that the alleged infringer's actions induced infringing acts and that he knew or should have known his actions would induce actual infringements." Id. at 553. Reliance on counsel's advice that an accused product does not infringe can be very powerful. See Read Corp., 970 F.2d at 828-29 ("Those cases where willful infringement is found despite the presence of an opinion of counsel generally involve situations where opinion of counsel was either ignored or found to be incompetent."); accord Harris Corp. v. Ericsson Inc., 417 F.3d 1241, 1259 (Fed. Cir. 2005) (citing Read Corp., 970 F.2d at 828-29).

In line with these cases, the undisputed facts here show SDI's punctilious efforts upon being informed by Bose of potential infringement. Bose sent a letter dated December 10, 2008 to SDI stating that the '765 patent "applies" to several SDI iHome products. Pl.'s Facts ¶ 102. On March 26, 2009, SDI representatives met with Bose representatives. Id. ¶ 103. Bose argues that this undisputed fact is inadmissible as a communication in connection with settlement, and cites a September 8, 2009 letter where counsel agreed that any settlement discussions would be protected to the full extent of Federal Rule of Evidence 408 and Local Rule 16.4. Bose Corps. Mot. Strike Portions Reply Mem. SDI Techs., Inc. Supp. Mot. Stay, Ex. A, Sept. 28, 2009 E-MAIL, ECF No. 57-2. SDI apparently identified the Frank patent during their meeting. Pl.'s Facts ¶¶ 104-15. While there may have been protected communications, SDI's undisputed presentation of the Frank patent to Bose was merely a presentation of a legal position, not a settlement discussion. See Fed. R. Ev. 408. Presumably having failed to convince Bose that SDI's products did not infringe, SDI then commissioned and received a written opinion by Oram of Arent Fox LLP, dated May 22, 2009, on the subject of the validity of the patent. Pl.'s Facts ¶ 106. The legal opinion asserted that all claims of the '765 patent were invalid based on the combination of the Frank Patent and the Van Der Muelen patent. Bose disputes that SDI relied on this opinion, but it is undisputed that the Frank

Patent was subsequently combined with the Van Der Muelen patent in a reexamination of the '765 patent to reject all of the claims of the patent, along with two other rejections based on other prior art. Id. ¶¶ 108-09. It matters not if SDI executives did not personally read the Oram opinion that concluded that SDI's products did not infringe. Hockerson-Halberstadt, Inc., 104 F. App'x at 727 (citing Manville Sales, 917 F.2d at 553 ("There is simply neither compelling evidence nor any findings that the officers had specific intent to cause another to infringe."))

When deposed, Bose damages expert Michael J. Dansky ("Dansky") did not dispute that SDI "had an invalidity opinion and believed that the ['765] patent was invalid."<sup>12</sup> Pl.'s Facts ¶ 53 (citing Decl. Benjamin R. Askew Supp. Defs.' Joint Mem. Supp. Mot. Summ. J., Ex. R, Dep. Michael J. Dansky 334-37, ECF

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<sup>12</sup> Dansky stated "I've come to realize that SDI had an invalidity opinion, and so it didn't believe that it – that the patent was going to be valid. [Redacted under Fed. R. Evid. 408]." Decl. Benjamin R. Askew Supp. Defs.' Joint Mem. Supp. Mot. Summ. J., Ex. R, Dep. Michael J. Dansky 334, ECF No. 244-18. Dansky was crystal clear about SDI's reliance on the invalidity opinion in his deposition.

Q: So in your view, SDI was willing to pay a million dollars and acknowledge the validity even though they thought the patent was a null?

A: No. [Redacted], I believe they were not willing to admit validity of the patent. I think it actually was quite the opposite. They made it clear that they would not accept the validity of the patent or say anything about its validity, [redacted], and at the time they had an invalidity opinion and believed that the patent was invalid.

Id. at 335. The Court recognizes that the redacted portions above are inadmissible under Federal Rule of Evidence 408 and draws no inferences from them.

No. 244-18). Here, SDI did what any noninfringing defender would do, and they need not be subjected to the cost and effort of a trial. Cf. Exergen Corp. v. Wal-Mart Stores, Inc., 575 F.3d 1312, 1320 (Fed. Cir. 2009) (noting that invalid patents cannot give rise to infringement) (quoting Medtronic, Inc. v. Cardiac Pacemakers, Inc., 721 F.2d 1563, 1583 (Fed. Cir. 1983)). This Court concludes that Bose cannot prove the specific intent necessary to proceed to trial on contributory infringement or inducement. Bose has not shown that SDI knew that the iW1 product infringed the '765 patent. It is undisputed that SDI had an invalidity opinion, and a Bose expert agreed that SDI believed the invalidity opinion. Nor does Bose allege that SDI was willfully blind to the '765 patent or potential infringement. Given this record, no reasonable jury could conclude that SDI had the requisite intent, and this Court ought grant summary judgment for SDI.

### III. CONCLUSION

The Court therefore GRANTS the defendants SDI, Imation, DPI, and Memorex's motion for summary judgment, ECF No. 239, not on the ground that the '765 patent is invalid - that is a matter for the patent reexamination proceedings - but on the ground that, given the Court's construction, there is no infringement of one hundred forty-three of the one hundred forty-four challenged products and that, as to the one hundred forty-fourth, no reasonable jury could find SDI had the intent necessary to

support a finding of inducement or contributory infringement.  
The Court thus need not, and does not reach the issue of the  
priority date of the '765 patent.

**SO ORDERED.**

/s/ William G. Young  
WILLIAM G. YOUNG  
DISTRICT JUDGE

# Addendum D

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

_____	)	
BOSE CORPORATION,	)	
	)	
Plaintiff,	)	
	)	
v.	)	CIVIL ACTION
	)	NO. 09-11439-WGY
	)	
SDI TECHNOLOGIES, INC.,	)	
IMATION CORP.,	)	
MEMOREX PRODUCTS, INC.,	)	
3XM CONSULTING, LLC, and	)	
DPI, INC.,	)	
	)	
Defendants.	)	
_____	)	

MEMORANDUM OF DECISION  
CONCERNING PATENT CLAIM CONSTRUCTION

YOUNG, D.J.

December 12, 2011

**I. INTRODUCTION**

Bose Corporation ("Bose") commenced this action against SDI Technologies, Inc. ("SDI"), Imation Corporation ("Imation"), Memorex Products, Inc. ("Memorex"), 3XM Consulting, LLC ("3XM"), and DPI, Inc. ("DPI"), for allegedly infringing its U.S. Patent No. 7,277,765 (the "'765 Patent"), titled Interactive Sound Reproducing. Claims 1-3, 13, 16-25, 33, 35, and 37-42 of the patent are currently at issue.

A000075

The '765 Patent, issued on October 2, 2007, discloses a system for playing digital music from an audio source device. The audio sources include a computer CD player, digitally encoded computer files stored on the computer, and a computer network connected to the computer. See '765 Patent, Abstract. The patent initially concerned Bose's Wave/PC product. In 2004, Bose launched its SoundDock products, which currently practice the patent. The SoundDock is similar to the Wave/PC, except that where the Wave/PC is designed to work with a personal computer, the SoundDock is designed to work with a smaller, handheld computer, such as the popular iPod and the iPhone.

## **II. ANALYSIS**

### **A. Claim Construction Principles**

Claim construction is an issue of law for the Court. Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996). In construing the claims, this Court generally gives the words of the claims their ordinary and customary meaning in the art at the time of the invention. Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc).

Claims do not stand alone, they must be "read in view of the specification, of which they are a part." Id. at 1315 (quoting Markman, 52 F.3d at 979). "[T]he specification is always highly

relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996).

In addition to the specification, the prosecution history can also supply intrinsic evidence. Phillips, 415 F.3d at 1317. Prosecution history, like the specification, "provides evidence of how the [U.S. Patent and Trademark Office] and the inventor understood the patent." Id. It also demonstrates "whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." Id.

Finally, extrinsic evidence can also be useful, as it "can shed useful light on the relevant art." Id. Such evidence is, however, less reliable, and "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." Id. at 1319. In fact, "extrinsic evidence in general, and expert testimony in particular, may be used only to help the court come to the proper understanding of the claims; it may not be used to vary or contradict the claim language." Vitronics, 90 F.3d at 1584.

**B. Disputed Terms**

The parties originally requested that this Court construe a long list of terms found within the '765 Patent.<sup>1</sup> Once again this Court must point out that its duty (and power) to construe claim terms is limited by the "case or controversy" clause of the Constitution, U.S. Const. art. III, § 2, cl. 1, to those few terms which make a definitive difference to the claims and defenses of this lawsuit. Where, as here, this Court holds the Markman hearing without reference to the accused device and before it considers the inevitable motions for summary judgment, see Amgen, Inc. v. Hoechst Marion Roussel, Inc., 126 F. Supp. 2d 69, 80-81 (D. Mass. 2001) (explaining the reasons for this Court's practice), it behooves the parties to approach the hearing with a sniper rifle, not a blunderbuss. See D. Mass. L.R. 16.6 App. (B)(4)(d) ("The Court suggests that, ordinarily, no more than ten (10) terms per patent be identified as requiring construction."); accord N.D. Cal. Patent L.R. 4-1(b); D. Idaho Patent L.R. 4.1(b); N.D. Ill. LPR 4.1(b). See generally Travis M. Jensen & Matthew Paik, Patent Local Rules - A Summary & Comparison, PLI's 6th Annual Patent Law Inst. (2012), for an excellent overview of those districts which have adopted local rules for handling patent cases.

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<sup>1</sup> 3XM did not submit any claim construction briefs or propose any constructions for the claim terms.

After carefully considering the parties' arguments made in their briefs and during the November 14, 2011, Markman hearing, this Court deems it necessary and prudent to limit its constructions to a more restricted number of disputed terms. The Court's constructions are as follows.

**1. "Interface" Terms**

The term "interface" appears, either explicitly or by reference, in every claim of the '765 Patent. "Interface" appears in claims 1-24, "interface unit" appears in claims 25-34, "interface device" appears in claims 35-36, and "interface module" appears in claims 37-38.

Bose contends that "interface" simply means "a connection," and that "interface unit," "interface device," and "interface module" similarly mean "a connection." SDI, Imation, Memorex, and DPI propose that "interface" means "circuitry that converts a digital audio signal from an audio source to an analog audio signal and transmits digital control commands." As for the other "interface" terms - "interface unit," "interface module," and "interface device," they propose that each term means "a discrete structure that includes the interface."

**a. "Interface"**

This Court agrees with SDI, Imation, Memorex, and DPI, and construes "interface" as "circuitry that converts a digital audio signal from an audio source to an analog audio signal and transmits digital control commands." There is ample support for this construction.

**i. The Specification**

The meaning of "interface" is not apparent from the context in which it is used in the claims. The specification, which "is always highly relevant to the claim construction analysis," Vitronics, 90 F.3d at 1582, describes two distinct embodiments of the present invention. The first embodiment, seen in Figure 1, includes a sound card 33 (within the computer system 20) that is connected to radio audio signal processing circuitry 14 (of the sound reproduction device 10, i.e., the speaker), by the stereo jack 48 through analog input terminal 49. '765 Patent, col. 3, ll. 59-61. The second embodiment in Figure 2 is the same as that in Figure 1, except that the "[s]ound card 33 . . . is not needed in this configuration" and the "[s]tereo jack 48 and the audio system control connector 50 of FIG. 1 are replaced by a bus interface connector 52, which connects to an interface unit 54." Id. at col. 3, l. 67 - col. 4, l. 4.

In other words, of the two embodiments in the specification, the first embodiment (Figure 1) has no "interface" to couple the computer to the speaker, while the second embodiment (Figure 2) is similar, except that a "bus interface connector" and an "interface unit" now couple the computer to the speaker. This is inconsistent with Bose's contention that "interface" is merely "a connection," as both embodiments have "a connection," but "interface" only appears in the second embodiment. Furthermore, the plain language in the specification also indicates that the "bus interface connector" connects the interface unit 54 to the computer. Id. at col. 4, ll. 1-4. This suggests that the "interface" connects to the computer through a separate "connector," and undermines Bose's assertion that the "interface" is the "connector."

Figure 3, along with Figures 10A through 10F, suggests that the "interface" is much more complex than simply "a connection."<sup>2</sup> In fact, Figure 3, along with its corresponding description in the specification, demonstrates that the "interface" is a

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<sup>2</sup> Figure 3 shows the "interface unit" in more detail. As shown, the interface unit comprises a logic circuitry 58 and a D/A converter 60. See Figure 3; '765 Patent col. 4, ll. 15-30. In operation, the logic circuitry transmits audio information signals to the D/A converter, which "converts the digital signal to an analog audio signal." Id. at col. 4, ll. 37-40. In the particular embodiment shown in Figure 3, the interface unit also includes a second analog line 68 connecting a second analog terminal 66 and an A/D converter 70. Id. at col. 4, ll. 27-30. In addition, six electronic circuit diagrams, Figures 10A - 10F, provide a detailed overview of the interface unit.

circuitry that converts digital audio signals to analog audio signals, and transmits these audio signals and the control signals. See id. at col. 4, ll. 31-53 (describing the interface unit's operation).

Bose contends that this proposed construction from SDI, Imation, Memorex, and DPI impermissibly excludes the embodiment depicted and described in Figure 1. Generally, "there is a strong presumption against a claim construction that excludes a disclosed embodiment." In re Katz Interactive Call Processing Patent Litig., 639 F.3d 1303, 1324 (Fed. Cir. 2011); see also C.R. Bard, Inc. v. United States Surgical Corp., 388 F.3d 858, 865 (Fed. Cir. 2004) ("[A] construction that excludes a preferred embodiment 'is rarely, if ever, correct.'" (quoting Vitronics, 90 F.3d at 1583)).

Nonetheless, "a claim need not cover all embodiments." Intamin Ltd. v. Magnetar Techs., Corp., 483 F.3d 1328, 1337 (Fed. Cir. 2007); see also TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc., 529 F.3d 1364, 1373 (Fed. Cir. 2008) (citing Federal Circuit cases supporting the conclusion that "[o]ur precedent is replete with examples of subject matter that is included in the specification, but is not claimed"). As discussed above, the embodiment disclosed in Figure 2 removed the sound card, and replaced it with an "interface." Therefore, it is the claims themselves, not their construction, that exclude an embodiment,

and direct the reader to the embodiment in Figure 2 rather than the one in Figure 1.

## **ii. Prosecution History**

Bose, in its original application, included in its original claim 1 "a connector for connecting said sound reproduction device with a computer . . . ." See Original Patent Application 28, Doc. No. 166-2. Original claim 2, a dependent claim, included a limitation: "an interface device for connecting said computer and said connector, said interface device comprising a digital to analog converter." Id. (emphasis added). Furthermore, following an Office Action, Bose incorporated this "interface" limitation into amended independent claim 80, which eventually became claim 1 of the '765 Patent. See Office Action Reply 3, Doc. No. 166-7. Specifically, Bose communicated to the PTO that

Claim 80 also now requires 'a remote control configured to produce at least a first control signal that controls an operation of the audio source device, wherein the first control signal is received by the control circuitry and transmitted to the audio source device via the interface.' These limitations are not disclosed or suggested in Contois.<sup>3</sup>

Id. at 10-11 (emphasis added). Original claims 1 and 2, along with amended claim 80, suggest that the "interface" comprises a

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<sup>3</sup> Contois, a cited prior art, refers to U.S. Patent No. 5,864,868, titled Computer Control System and User Interface for Media Playing Devices.

"digital to analog converter," and that it transmits control signals to the audio source device. The original, now cancelled claims 1 and 2, which would have covered the embodiment in Figure 1, also explain why the current claims no longer cover that embodiment. See PSN Ill., LLC v. Ivoclar Vivadent, Inc., 525 F.3d 1159, 1166 (Fed. Cir. 2007) ("[C]ancelled claims may provide 'probative evidence' that an embodiment is not within the scope of an asserted claim.").

Bose correctly states, in its briefs and during the Markman hearing, that disavowals in the prosecution history must be deliberate, unambiguous, and explicit. See Sky Techs. LLC v. Ariba, Inc., 491 F. Supp. 2d 154, 157 (D. Mass. 2007). Its statements regarding "interface," however, do not constitute a disavowal. Bose did not narrow the scope of "interface;" rather, they added and defined the term "interface" in their Office Action Reply. Meanwhile, "a patentee's statements during prosecution, whether relied on by the examiner or not, are relevant to claim interpretation." Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1350 (Fed. Cir. 2004); see also E.I. du Pont de Nemours & Co. v. Phillips Petrol. Co., 849 F.2d 1430, 1438 (Fed. Cir. 1988) ("Regardless of the examiner's motives, arguments made during prosecution shed light on what the applicant meant by its various terms."). Bose's statements regarding the "interface" during prosecution are therefore

relevant, and they suggest that "interface" is not simply "a connection" as Bose now proposes.

### **iii. Extrinsic Evidence**

Finally, Bose provides definitions from the IEEE Standard Dictionary of Electrical and Electronics Terms, and the Modern Dictionary of Electronics. Doc. Nos. 164-3, 164-4. Bose also provides, and relies heavily on, Dr. Beckmann's declarations.<sup>4</sup> Doc. Nos. 165, 173.

As an initial matter, this Court must "view[] extrinsic evidence in general as less reliable than the patent and its prosecution history in determining how to read claim terms." Phillips, 415 F.3d at 1318. In addition, "a court should discount any expert testimony that is clearly at odds with . . . the written record of the patent." Id. (internal quotation omitted). This Court will therefore not rely heavily on the Beckmann declarations. Furthermore, contrary to Bose's contention, these dictionaries' definitions of "interface" do not unequivocally affirm that it is simply "a connection."<sup>5</sup>

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<sup>4</sup> Dr. Paul Beckmann is a named inventor of the '765 Patent.

<sup>5</sup> In fact, the dictionaries suggest that an "interface" can be "[a] concept involving the specification of the interconnection between two equipments or systems . . . [that] includes the type, quantity, and function of the interconnection circuits and the type and form of signals to be interchanged by these circuits," Doc. No. 164-3 at 541; "[a] circuit that controls the flow and format of data between a computer a

In light of the claim language, the specification, and the prosecution history, this Court construes "interface" as "circuitry that converts a digital audio signal from an audio source to an analog audio signal and transmits digital control commands."

**b. "Interface Unit," "Interface Device," and "Interface Module"**

In light of the claim language and the specification, this Court construes each of the terms "interface unit," "interface device," and "interface module" as "a structure that includes the interface."

Bose contends that these terms all mean "a connection," thus suggesting that they have the same meaning as "interface." Different terms, however, are presumed to have different meanings. See Forest Labs., Inc. v. Abbott Labs., 239 F.3d 1305, 1310 (Fed. Cir. 2001) ("Where claims use different terms, those differences are presumed to reflect a difference in the scope of the claims."). Under this claim construction principle, these terms, while containing "interface," cannot have the same meaning as "interface" itself.

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terminal or other peripheral," Doc. No. 164-4 at 385; or a "common boundary" that involves "code format, speed, or other changes as required." Id.

Claims also "must be read in view of the specification, of which they are a part." Phillips, 415 F.3d at 1315. "Interface unit" and "interface module" are used interchangeably in the specification. See '765 Patent, col. 4, l. 60 - col. 5, l. 13 ("One alternative is to implement interface unit 54 as a module . . . . A second alternative is to implement interface unit 54 as an intermediate, separate unit . . . . A third alternative is to implement interface unit 54 as a module, such as circuit board in the sound reproduction device 10."). The term "interface device" only appears in claims 35 and 36. These terms' usage in the specification suggest that they refer to three similar, yet different structures with different implementation schemes, consistent with this Court's construction.

## **2. "A Display for Displaying . . ."**

The "a display for displaying a user interface . . ." claim phrase appears in independent claims 1, 35, and 37, which define "display" with respect to its capabilities. This Court construes this term as "a display capable of displaying . . ."

The words of a claim "are generally given their ordinary and customary meaning." Vitronics, 90 F.3d at 1582. "In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than

the application of the widely accepted meaning of commonly understood words." Phillips, 415 F.3d at 1314. This is such a case. The specific word at issue here is "for," which the Merriam-Webster Dictionary defines as "a function word to indicate suitability or fitness." This definition is also proper in the context of the claim language, this Court therefore does not need further to consult other intrinsic or extrinsic evidence. See Brown v. 3M, 265 F.3d 1349, 1352 (Fed. Cir. 2001) ("[Terms that] are not technical terms of art . . . do not require elaborate interpretation.").

SDI argues that the phrase "display for displaying" is a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6.<sup>6</sup> This is incorrect, as a display constitutes a structural element. See Paragon Solutions, LLC v. Timex Corp., 566 F.3d 1075, 1086-87 (Fed. Cir. 2009) (holding that "display unit" is not a means-plus-function limitation); Optimal Rec. Solutions v. Leading Edge Techs, Inc., 6 F. App'x 873, 877-78 (Fed. Cir. 2001) (holding that "a display" is "sufficient structure for accomplishing the functions recited in the pertinent claim limitations.)). Furthermore, the phrase at issue here does not include the term "means," thus triggering a presumption that the claim limitation here is not subject to Section 112, paragraph 6. CCS Fitness,

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<sup>6</sup> Under 35 U.S.C. § 112, ¶6, patent applicants may claim an element of a combination based on its functionality, without reciting any structures for performing a particular function.

Inc. v. Brunswick Corp., 288 F.3d 1359, 1369 (Fed. Cir. 2002).

This presumption has not been overcome here.

In Optimal Recreation, the Federal Circuit construed the term "display" as "a device capable of visually representing information." 6 F. App'x at 878 (emphasis added). Similarly, this Court construes the phrase "a display for displaying" as "a display capable of displaying."

### 3. "Metadata"

The term "metadata" appears in every independent claim. This Court construes "metadata" as "data containing identifying characteristics."

As used in the claims, "metadata" "characterizes the music file." See, e.g., '765 Patent, claim 1. The term is used similarly in the specification. See id. at col. 7, ll. 26-28 ("[The assemblage] includes recorded units with common identifying characteristics, sometimes referred to as common 'metadata' values."). The specification also explains that "[m]etadata values may include the artist, the composer, the type of music, and others." Id. at col. 7, ll. 30-32. The term's usage in the claims and the specification is consistent with this Court's construction.

Bose proposes to construe "metadata" as "information that describes the content of other data." Bose's construction

improperly imports an unsupported limitation into the term, by requiring the metadata to describe the "content" of other data. Examples of metadata provided in the specification include the artist, composer, and the type of music, none of which relates to the content of the music files. Meanwhile, SDI, Imation, Memorex, and DPI propose to construe this term as "information that characterizes the music file." This construction is redundant; the relevant claims already require "metadata" to "characterize[] the music file" or otherwise be "associated with" the music file. See '765 Patent claims 1, 25.

**4. "A Plurality of Music Files, Each Music File Including . . ."**

The claim phrase "a plurality of music files, each music file including at least a first and second type of metadata that characterizes the music file" is in every independent claim. Three terms, "a plurality," "music file," and "including," are in dispute here.

**a. "A Plurality"**

"A plurality" means "at least two." Bilstad v. Wakalopulos, 386 F.3d 1116, 1121-22 (Fed. Cir. 2004). This construction is also consistent with the term's ordinary meaning. Id. at 1122. Bose proposes to construe "a plurality" as "a group of at least two," but there is no requirement that "at least two" must be in

a "group" as Bose proposes. Bose does not rely on any intrinsic or extrinsic evidence to support its proposed construction, as there is none. "A plurality" means "at least two."

**b. "Music File"**

The specification states that "recorded units and assemblages of recorded units are referred to as 'music files' even though the recorded units are not necessarily recordings of music." '765 Patent, col. 7, ll. 10-12. Accordingly, this Court construes "music file" as "a recorded unit of sound."

**c. "Including"**

As discussed above, terms that "are not technical terms of art . . . do not require elaborate interpretation." Brown, 265 F.3d at 1352. "Including" is another such term; this Court will therefore accord it its ordinary and customary meaning.

The parties, however, dispute whether the music files, which include "at least a first and second type of metadata," must be stored in the same location as the metadata. Bose proposes to construe "including" as "contains within it," which, according to SDI, Imation, Memorex, and DPI, infers that the metadata and the music file are stored in the same physical location. The specification, however, is silent on whether metadata is stored within the "file header information," whose physical location is

also unclear. Bose argues, unpersuasively, that because the claims used the term "including" rather than a more general term such as "associated with," metadata must be contained within the music file. This argument is not supported by any intrinsic or extrinsic evidence. In fact, the claims do use the more general term "associated with." See, e.g., '765 Patent, claim 25 ("metadata associated with the new music file[.]") (emphasis added). While declining to construe "including," this Court does hold that this term does not suggest that the metadata must be stored in the same physical location as the music files.

## **5. "Signal" and "Command"**

"Signal" appears in independent claim 1, and "command" appears in independent claims 25, 35, and 37. SDI, Imation, Memorex, and DPI propose to construe "signal" as "a series of pulses or waves used to transmit information," and "command" as "the desired action of the sound reproduction or audio source device." There is no need to construe these terms, and this Court accords them their ordinary and customary meaning.

### **a. "Signal"**

There is no intrinsic evidence supporting SDI, Imation, Memorex, and DPI's proposed construction for "signal." The specification uses the term "signal" repeatedly, but it only

describes the paths for and the types of these signals. See, e.g., '765 Patent col. 4, ll. 31-54 (describing the path of control signals between networked audio system and computer); id. at col. 9, l. 62 - col. 11, l. 3 (explaining in detail the various types of the signals). Nowhere does the usage of this term compel construing it as "a series of pulses or waves used to transmit information." Furthermore, SDI, Imation, Memorex, and DPI's proposed construction is unnecessarily confusing. See Stanacard, LLC v. Rebtel Networks, AB, 680 F. Supp. 2d 483, 493 (S.D.N.Y. 2010) (refusing to adopt a proposed construction that "serves only to introduce additional terms into the claim and would result in confusion for the jury").

**b. "Command"**

As used in the claims, a "command" "controls a function of the sound reproduction device," '765 Patent, claim 25, "controls a function of the music storage device," id., and "controls a function of the audio source device." Id. at claims 35, 37. SDI, Imation, Memorex, and DPI's construction, "the desired action of the sound reproduction or audio source device," improperly narrows and is incompatible with the claim language, as it leaves out the "music storage device."

"Command" is a simple and widely used term, and there is no indication here that the inventors intended to use the term

differently from its commonly understood meaning among persons of skill in the art. See American Patent Dev., Corp. v. Movielink, LLC, 604 F. Supp. 2d 704, 716 (D. Del. 2009)(refusing to adopt a construction that was "merely a verbose paraphrasing of claim language that otherwise offers little to assist one of skill in the art in understanding the claims").

#### **6. "Automatically Update"**

The phrase "cause the processor to detect an addition of a new music file . . . and in response to detection of a new music file, automatically update the first and second set of groups . . ." appears in dependent claim 3 and independent claim 25. The parties dispute whether "automatically" means that no user action is required. This term does not need any construction, and this Court accords it its ordinary and customary meaning.

Bose argues that the specification supports its proposed construction, that "automatically update" means "the updating occurs without the user taking any action." The specification, however, discloses that the automatic updating process occurs after either a new music file is added, or "the assemblage is requested." '765 Patent, col. 7, ll. 44-52. Both actions require a user action. Bose's proposed construction consequently would be too broad, as it suggests that the entire updating process

requires no user action, contrary to the claim language and the specificati

**7. "Audio Source Device," "Music Storage Device," and "Computer"**

Four of the parties, Bose, Imation, Memorex, and DPI, agree that these terms do not need construction. SDI, however, urges this Court to construe these terms narrowly, in such a way that they can refer only to a conventional personal computer. This Court disagrees, and instead accords them their ordinary and customary meaning.

The specification, SDI argues, limits "computer" to a conventional personal computer by indicating that it includes a computer CD player, be a "computer system," or be connected to a "computer network." See '765 Patent, col. 1, l. 24 - col. 2, l. 23. SDI, however, overlooks a basic claim construction principle by attempting to limit the claims to one disclosed embodiment. See Phillips, 415 F.3d at 1323. Furthermore, the specification also states that the "[c]omputer system 20 may be a conventional multimedia personal computer [in one implementation]." '765 Patent, col. 4, ll. 58-59 (emphasis added). SDI next argues that the language in claims 1 and 25 limit these terms to personal computers. Claims 14 and 26, however, state that the "computer" and the "music storage device," respectively, each "comprises a personal computer." '765 Patent, claims 14, 26. Under the doctrine of claim differentiation, these claims demonstrate that

the "computer" and the "music storage device" are not limited to a personal computer. See Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed. Cir. 2004) ("[T]he presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim."); see also Phillips, 415 F.3d at 1314 ("Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.").

#### **8. "An Analog Representations of the Respective Music Files"**

Finally, Bose proposes to construe the phrase "an analog representations of the respective music files" to mean "analog audio signals corresponding to the music in the music files." Bose offers no intrinsic or extrinsic support for this construction other than Dr. Beckmann's declarations, which, as discussed above, carry very little evidentiary weight. Furthermore, this construction does not differ from the term's ordinary and customary meaning, this Court therefore declines construing this term. See WIMCO, LLC v. Lange Indus., Inc., No. 06-CV-3565, 2007 WL 4461629, at \*4 (D. Minn. 2007)(providing no claim construction for a term where "any further definition or paraphrasing would serve no useful purpose").

### III. CONCLUSION

For the foregoing reasons, the disputed claim terms that warrant construction are given the constructions set forth in this opinion.

IT IS SO ORDERED.

/S/ William G. Young

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WILLIAM G. YOUNG  
DISTRICT JUDGE

## CERTIFICATE OF SERVICE

I certify that on July 15, 2013, a true and correct copy of the foregoing Principal Brief of Plaintiff-Appellant was electronically filed with the Clerk of this Court using the CM/ECF System, and a copy was also sent electronically via the court's CM/ECF system to counsel for Defendants-Appellees SDI Technologies, Inc., Imation Corp., Memorex Products, Inc., and DPI, Inc.:

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### **CERTIFICATE OF COMPLIANCE**

The Principal Brief of Plaintiff-Appellant is submitted in accordance with the type-volume limitation of Rule 32(a)(7)(B)(i) of the Federal Rules of Appellate Procedure. The Brief contains 13,988 words, as determined by Microsoft Word.

Dated: July 15, 2013

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